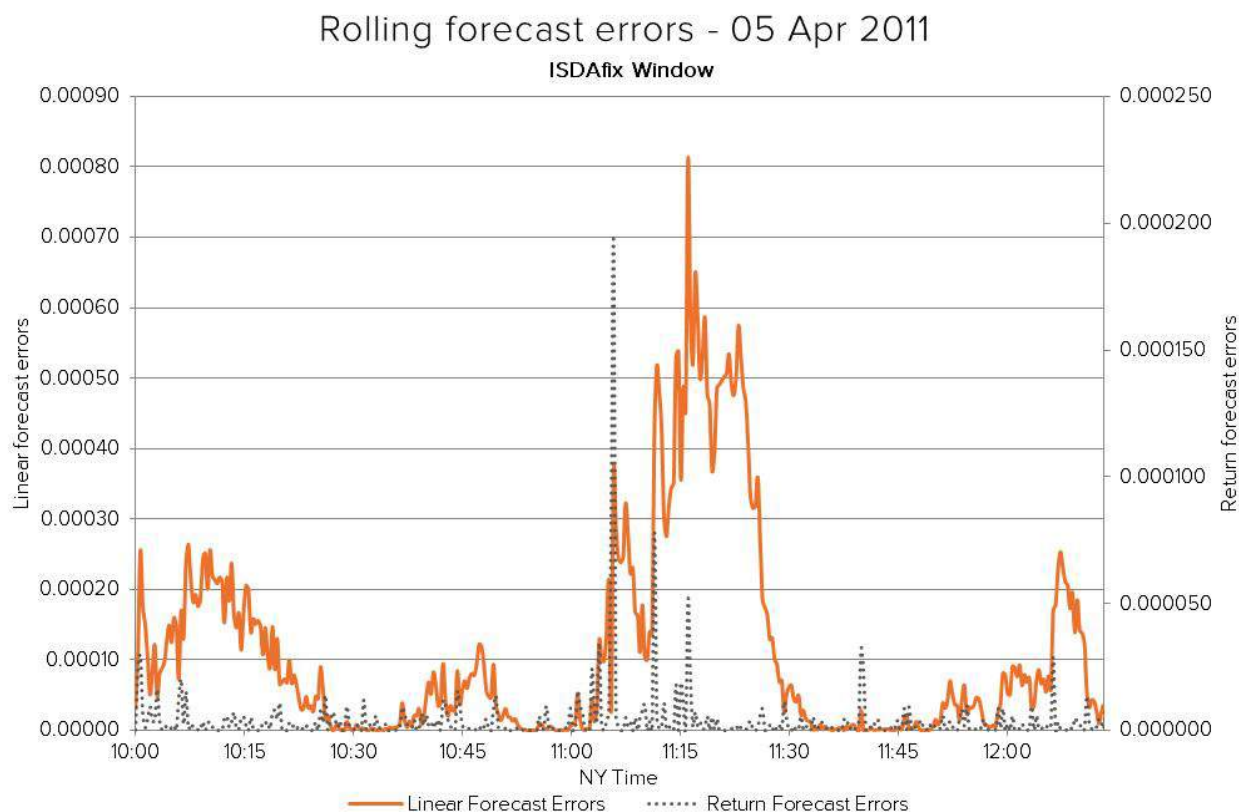


charted the squared difference between the swap rate/return rate at a given minute, and the swap rate/return rate in the preceding 30 minutes. This analysis revealed strong evidence of delayed input on the part of ICAP brokers.



160. In the above chart, one sees sharp movements in swap rates beginning just after 11:00 a.m., even though there is stability in the hour before and the hour after. The rolling forecast error is approximately three times higher during the period immediately after the reference point is set than it is at any other time. This suggests that swap rates accurately reflecting the market were not input until just after 11:02 a.m. When they were eventually input, swap rates began to drastically change, eventually stabilizing at a level substantially different than the ISDAfix rate for that day.

161. This practice was widespread until December 19, 2012, when UBS announced its settlement of an investigation into its role in LIBOR manipulation. In the UBS settlement, there

was, for the first time, a reference to inter-dealer brokers, like ICAP, being implicated in the LIBOR rate-fixing scandal. The U.K. FSA found that “UBS, through four of its Traders, *colluded with interdealer brokers* to attempt to influence JPY LIBOR submissions” made by Panel Banks.⁵⁸ The collusion was extensive; the FSA found UBS made “more than 1000 documented requests to 11 Brokers at six Broker Firms.”⁵⁹ Media reports disclosed that inter-dealer brokers worked with banks to publish false information on trading screens to facilitate a series of sham transactions for which the brokers received commissions, and to illicitly influence the rate submissions of other banks, all in an effort to manipulate the LIBOR rate.

C. The Anomalies Suspiciously Started to Dissipate Around December 2012

1. The same tests used by the experts above show signs of a waning conspiracy by mid to late 2013

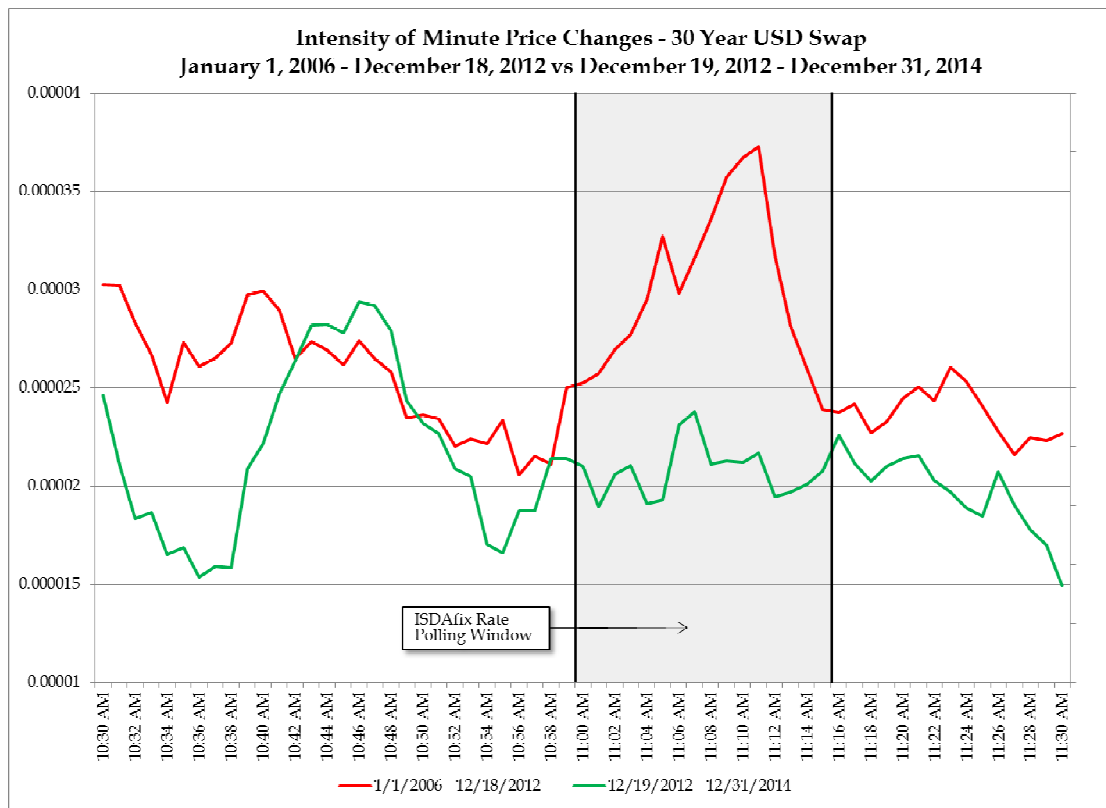
162. As discussed above, Plaintiffs’ experts found evidence of thousands of instances of artificially cramming through a large volume of transactions around the fixing window during the Class Period across multiple tenors. Just as importantly, they also found that this evidence of manipulation began to dissipate in December 2012 – when reports of investigations began, and when (as discussed in Section II) Defendants began to stop rubberstamping the reference rate. This provides further evidence that the anomalies observed by Plaintiffs’ experts cannot be innocently explained by natural market phenomenon, such as independent market actors independently seeking to hedge themselves against ISDAfix’s eventual rate.

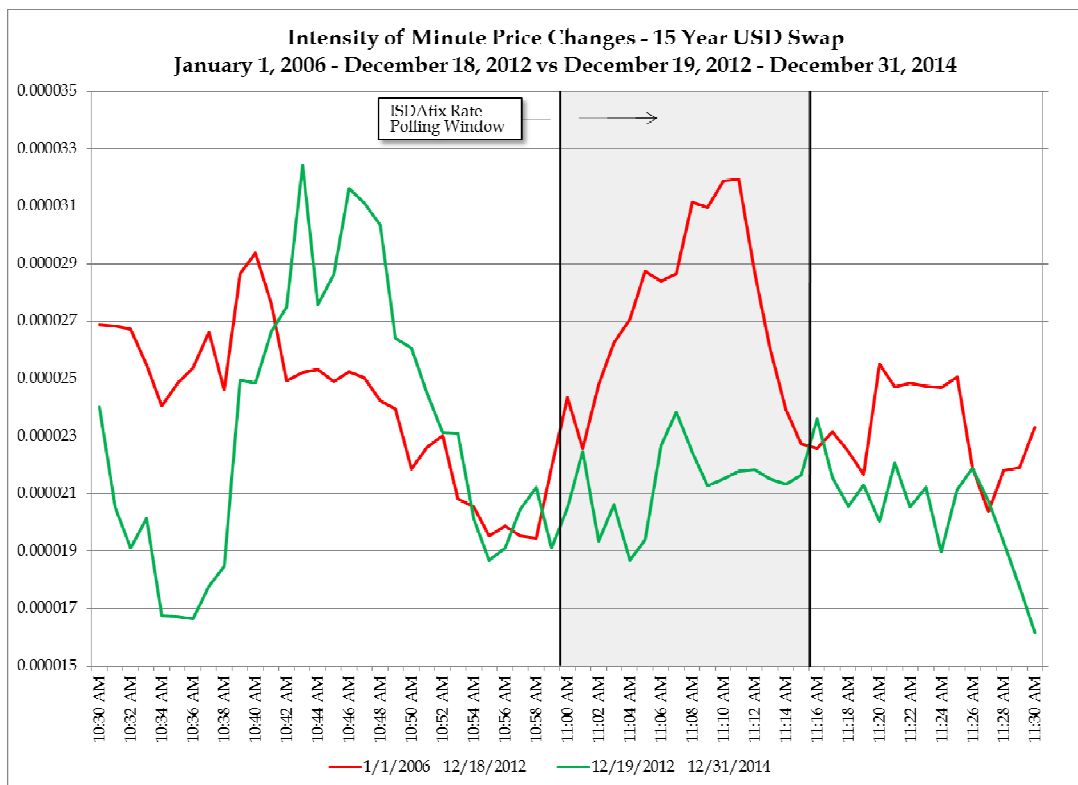
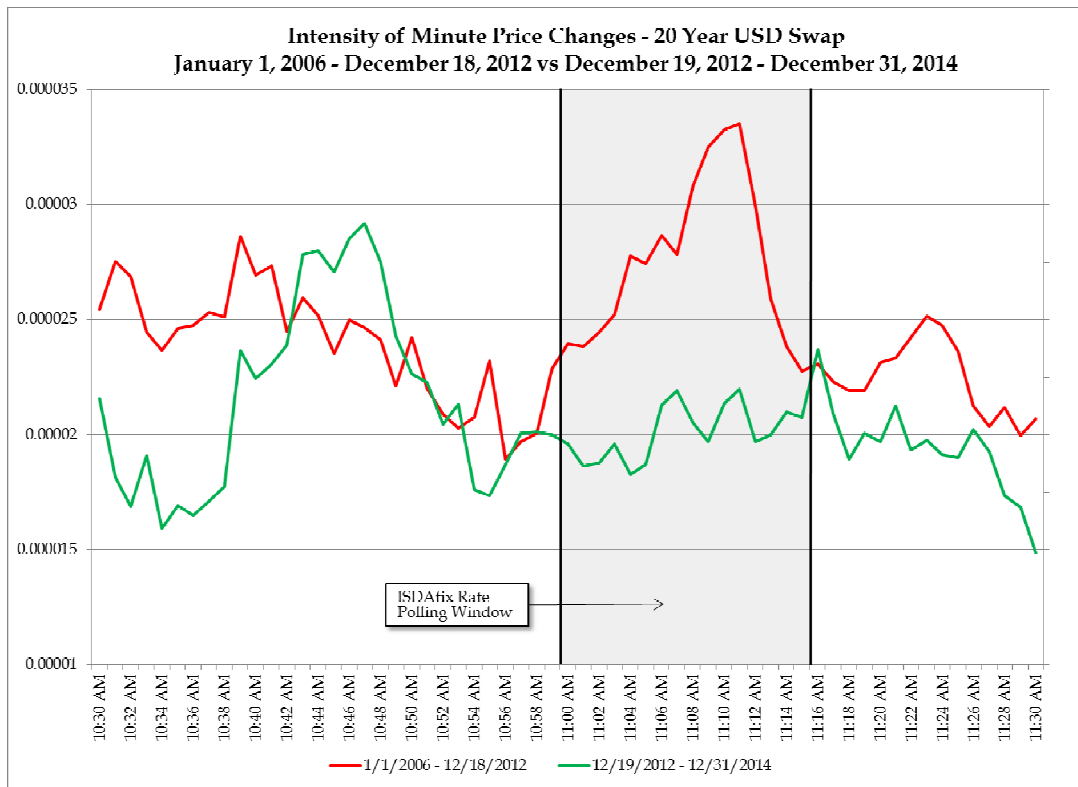
163. In addition to the charts set forth above, the graphs below exemplify how Defendants’ market manipulations abated after December 2012. These graphs represent the intensity of price changes for each minute from 10:30 to 11:30 a.m. for two time periods: before

⁵⁸ FSA, *Final Notice to UBS AG* at 3 (Dec. 19, 2012), <http://www.fsa.gov.uk/static/pubs/final/ubs.pdf> (emphasis added).

⁵⁹ *Id.*

and after December 19, 2012. They illustrate how different prices on any given minute are from prices 10 minutes prior. Before December 19, 2012, prices are the most different at 11:10 compared to 11:00 a.m. – *i.e.*, prior to the minute when the reference rate had already been chosen by ICAP and thus Defendants could cease banging the close and/or having reports of transactions delayed. The market was volatile because the market was reacting to the cessation of the artificial movements caused by Defendants' scheme. But after December 19, 2012, the volatility of the market is much more smooth after the reference rate was chosen – indicating that prices were not as artificial around the polling window, as they had been before Defendants came under regulatory scrutiny.





164. Plaintiffs' experts also calculated the intensity of price movements around the polling window by comparing the price at each minute of the day against prices prior to the fixing, after the fixing, and both prior to and after simultaneously. Prices were calculated by comparing the swap price at 11:00 a.m., for example, with the price 10 minutes before (a lagging comparison), 10 minutes later (a leading comparison), or the average of the two (a centered comparison). These measures were computed for every minute of every day, and averaged across each of the two time periods: before and after December 19, 2012.

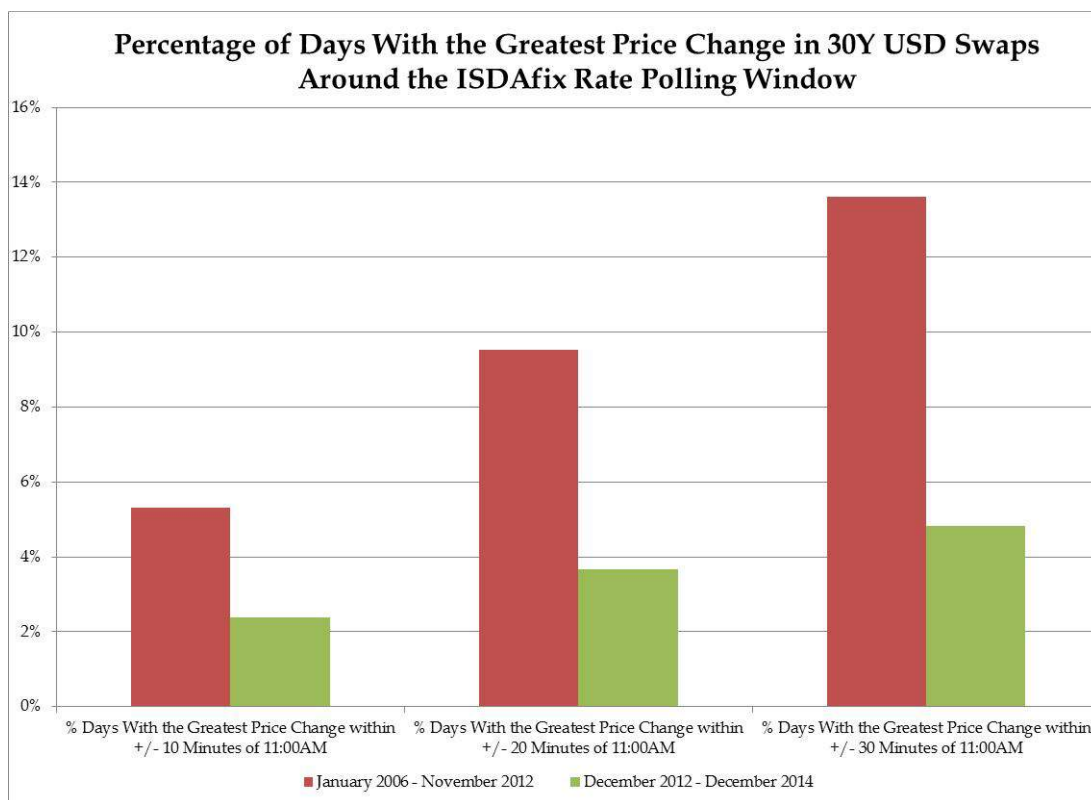
165. The "worst minute" of the day is defined as the minute for which the difference between the minute's price and a "nearby price" is the largest such difference of the day. The "nearby price" is the price either 10 minutes prior (lag comparison), 10 minutes after (lead comparison), or average of the two (center comparison). A high incidence of "worst minutes" at a certain time of day in a given period is consistent with price artificiality.

166. If price movements were randomly distributed across the 900 minutes of the day considered,⁶⁰ then (ignoring the possibility of ties) every minute of the day would be equally likely to be the "worst" minute of the day with a probability of 1/900 or 0.11%. For a block of 21 minutes not to contain the "worst" minute of the day, it would have to be the case that none of the 21 minutes was the worst. Assuming independence of events, the probability of not having the worst minute in a set of 21 minutes is $(1-1/900)$, or about 97.7%, meaning that the chance of finding the worst minute in a set of 21 minutes is 2.3%.

167. Instead, Plaintiffs' experts found that the "worst minute" fell around the fixing window far more often than it "should" have – indicating the market was not operating normally

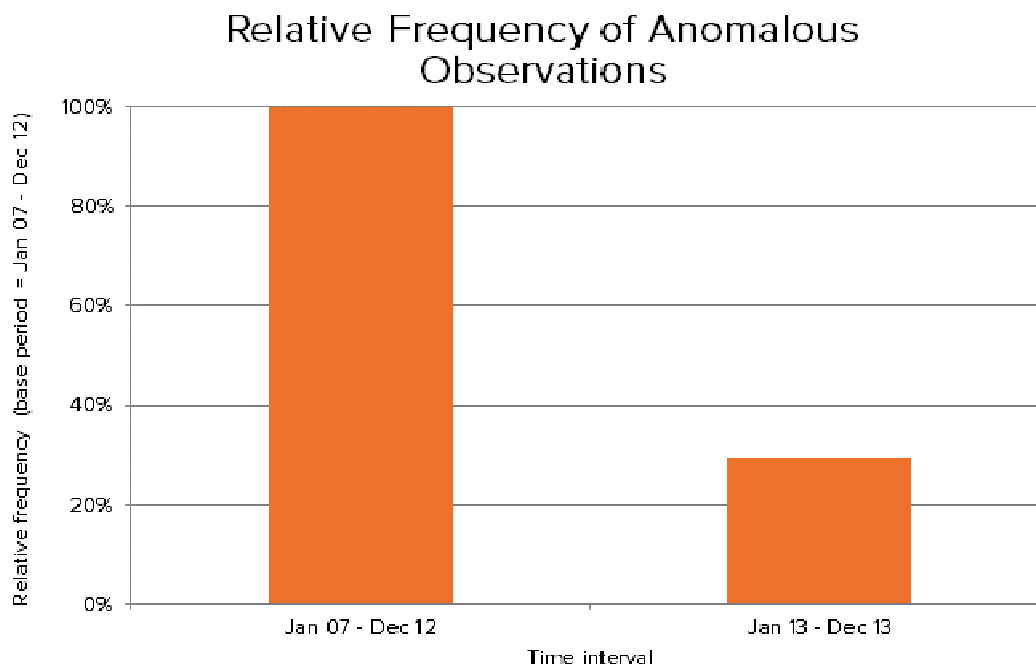
⁶⁰ The table below shows the incidence of worst minutes per year for all maturities. Given that data is often less robust early and late in the day, the analysis considers only prices from 7:00 a.m. through 10:00 p.m. N.Y. time on each day, representing a 15-hour period, or 900 minutes every day.

during such times. But they also found that this anomaly dissipated after December 12, 2012, as seen in the following chart.⁶¹

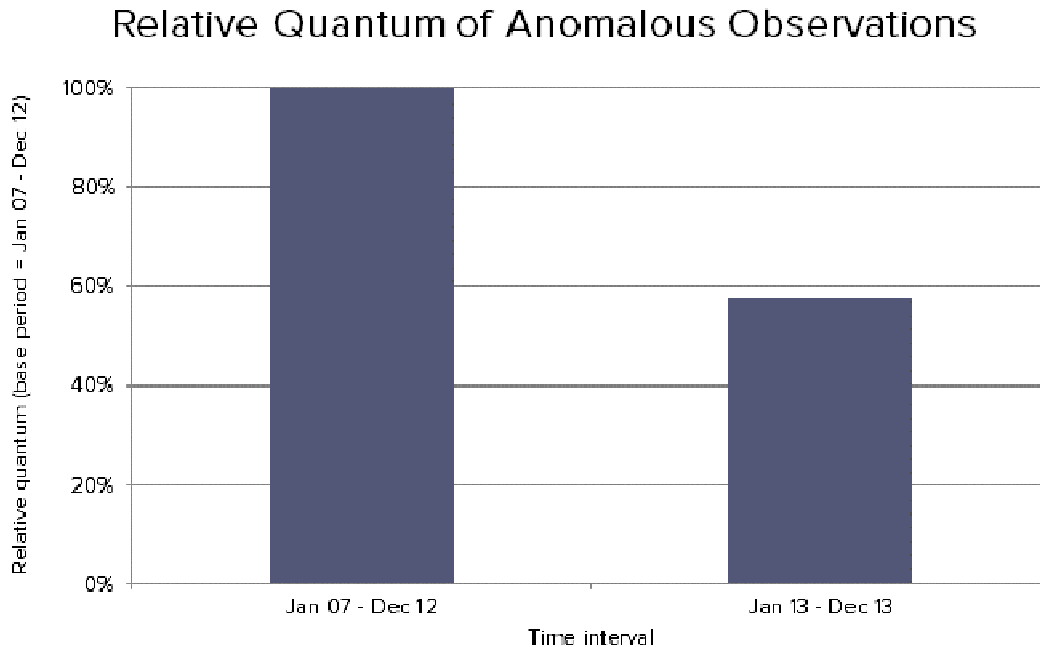


168. The following chart tracks a subset of such anomalies in the two periods, showing a relative comparison of how frequently there were anomalous movements either before or during the 11:00 a.m. fixing window. The data shows that there was roughly a **70% reduction** in anomalous movements of swap rates across 10-year and 30-year tenors around the fixing window after December 2012.

⁶¹ Additional charts comparing how often the “worst minute” of the day occurred around the fixing window before and after December 2012 appear in Appendix R.



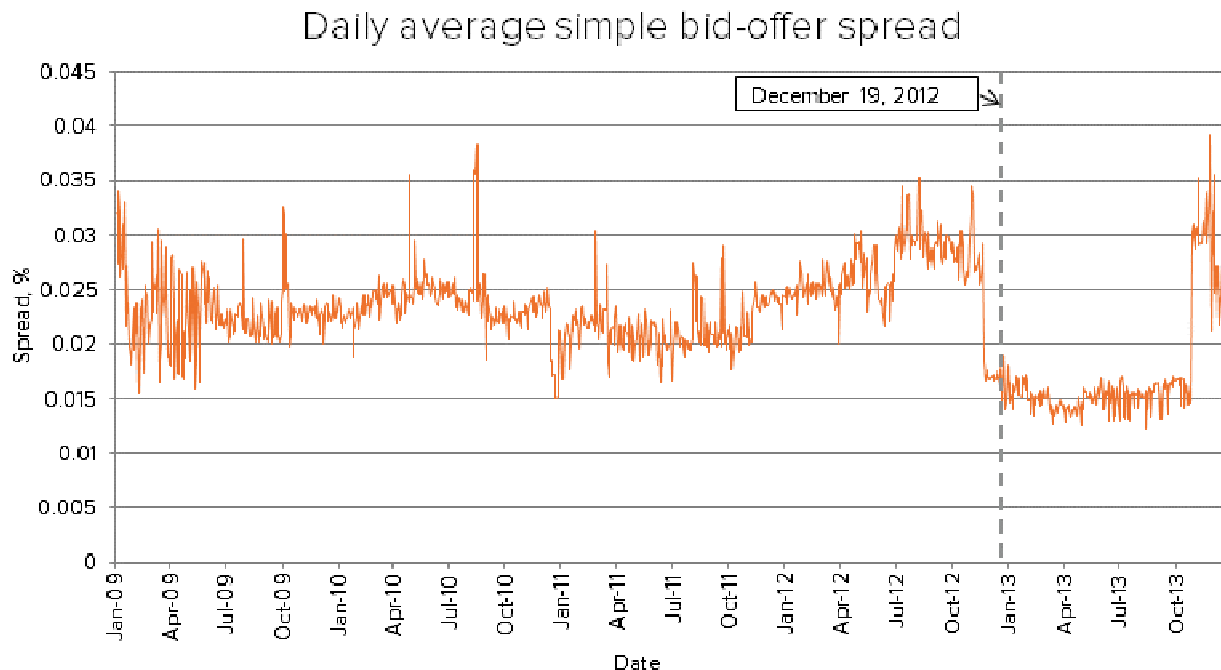
169. But it was not just the *number* of anomalies that changed pre- and post-December 2012. It was also the *size* of these anomalies. The data shows that such movements were over **40% smaller** during the period after December 2012 than the anomalous movements (again, across 10-year and 30-year swap tenors) during the period of January 2007 through December 2012. The following chart shows this visually.



170. By way of another example, as discussed above, Defendants conspired to withhold the reporting of certain transactions until just after 11:00 a.m. The sudden release of a pile of previously executed transactions would make it appear as though the Defendant Banks had distortedly large bid-offer spreads as those delayed transactions would be reported alongside later ones on different terms. Sure enough, as seen in the following chart,⁶² the daily average spreads for 10-year USD swaps drops suddenly right around December 2012. The orange line also becomes less volatile, with fewer significant peaks and troughs.⁶³

⁶² The data in this chart is solely from the Reuters actual/360 swap rate data.

⁶³ The increase in spreads in October 2013 was likely caused by the combination of the federal government shutdown and the uncertainty surrounding the implementation of regulations under the Dodd-Frank act. See Matthew Phillips, *The CFTC Is Drowning in Market Data*, Bloomberg Businessweek (Oct. 31, 2013), <http://www.businessweek.com/articles/2013-10-31/the-cftc-is-drowning-in-swaps-futures-trading-data>.



2. Other signs of changing behavior starting in December 2012

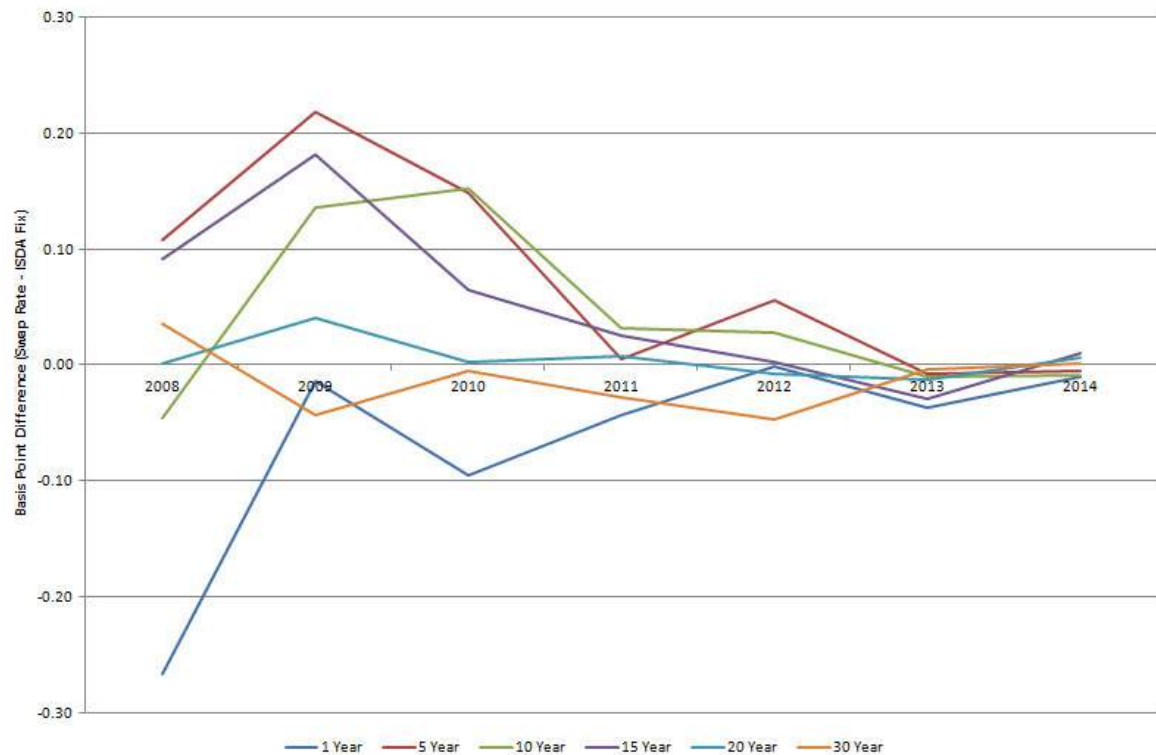
171. To confirm the artificiality of the market during the fixing window prior to December 2012, the following charts track the difference in market swap rates (as reported on Bloomberg⁶⁴) shortly before 11:00 a.m., to the eventual ISDAfix rate. If ISDAfix was being honestly set at what a truly competitive market rate was, there should be little or no consistent gap between the two. The exact position of the various lines are not important for present purposes. What is important to note is that there is in fact a gap between ISDAfix and the market rate leading up to 11:00 a.m. – but one that dissipates as all the lines converge during 2013. And as discussed in Section II above, that is when the Defendant Banks began to stop rubberstamping the manipulated reference rate.

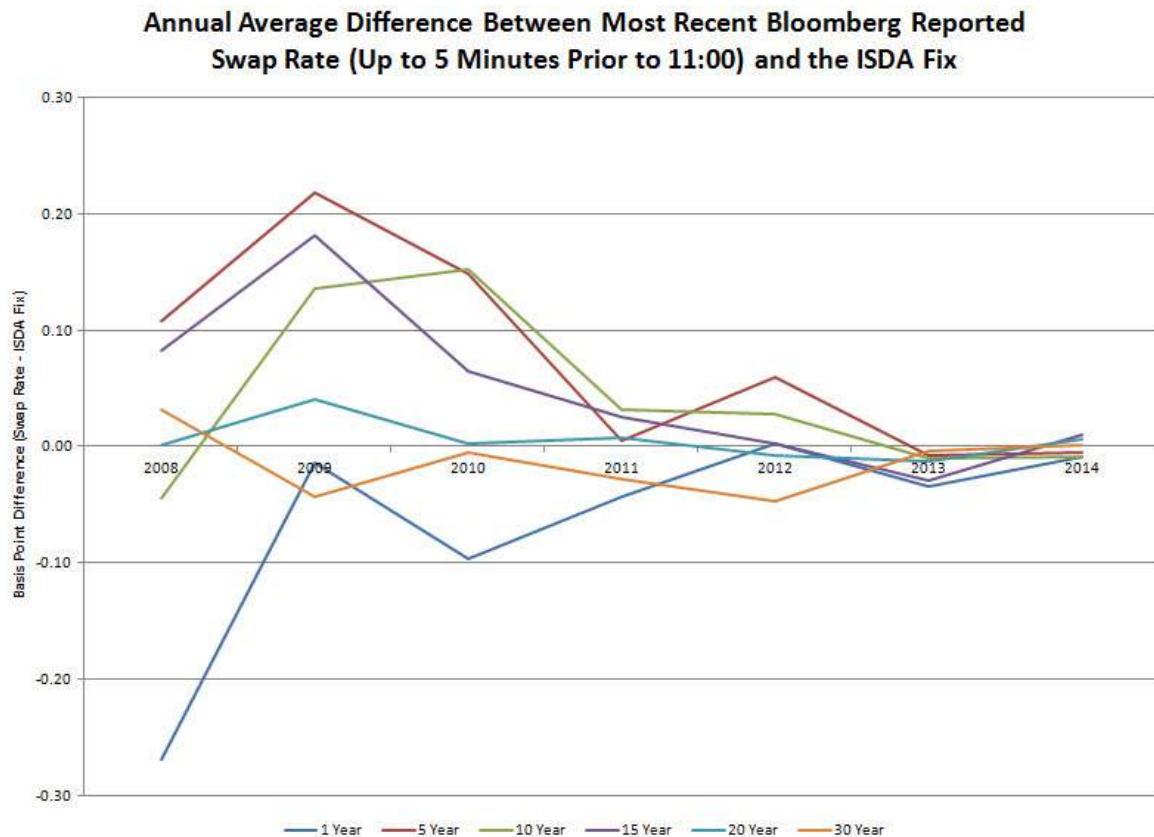
⁶⁴ The Bloomberg Composite Rate (CMP) is a “best market” calculation. At any given point in time, the composite bid rate is equal to the highest bid rate of all of the currently active, contributed, bank indications. The composite ask rate is equal to the lowest ask rate offered by these same active, contributed, bank indications.

Annual Average Difference Between Most Recent Bloomberg Reported Swap Rate (Up to 1 Minute Prior to 11:00) and the ISDA Fix



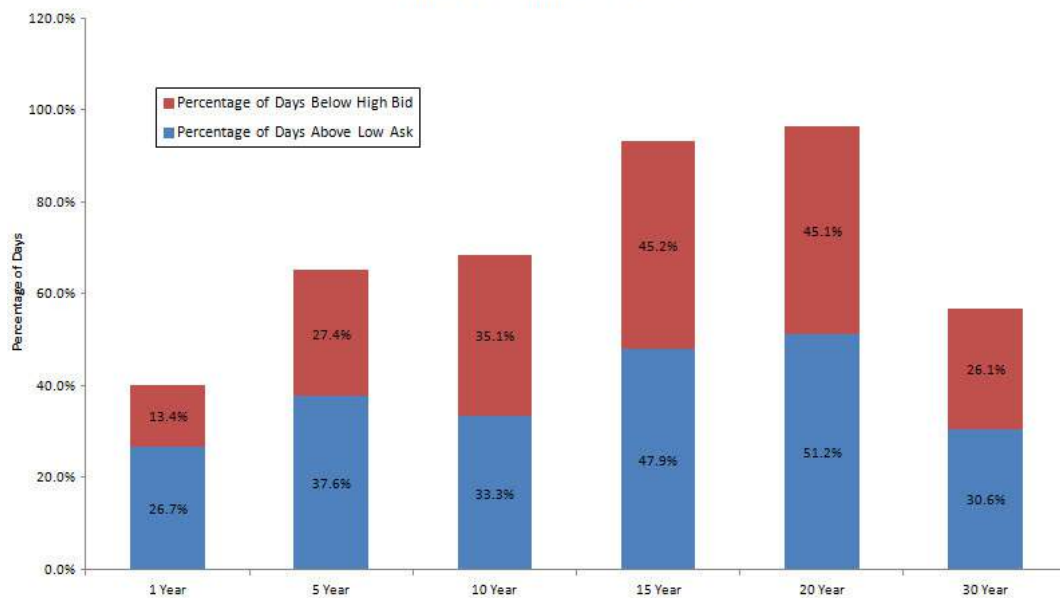
Annual Average Difference Between Most Recent Bloomberg Reported Swap Rate (Up to 2 Minutes Prior to 11:00) and the ISDA Fix





172. The following charts similarly compare the percentage of days where ISDAfix was above or below the “inside spread” for market rates as measured just before the reference rate was set. The inside spread is the lowest ask price and the highest bid price from the most recent prices prior to 11:00 a.m., shortly after which ICAP would circulate a reference rate and polling would begin. In other words, this analysis reveals how often the final ISDAfix rate was an outlier as compared to the market rates right before the polling window opened. As seen below (first using Bloomberg data, followed by data from Thomson Reuters), prior to December 2012, ISDAfix rates in fact regularly fell outside those bounds.

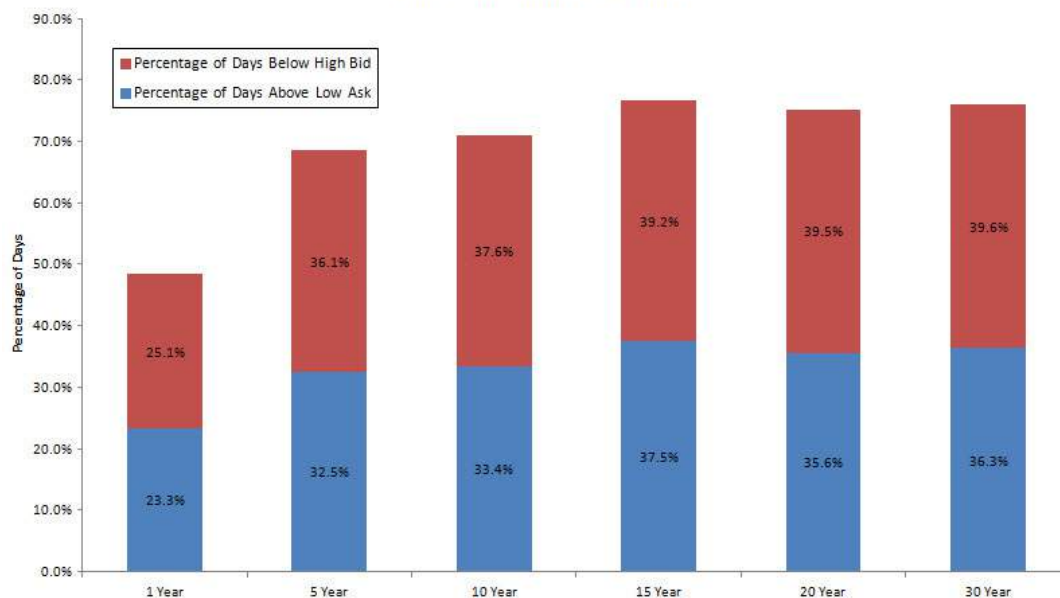
**Percentage of Days where ISDA Fix was Above or Below the Inside Spread
in the Period up to One Minute Prior to 11:00
2008 - December 18, 2012**



Source: Bloomberg.

Notes: The inside spread is defined as the lowest ask price and the highest bid price from the most recent quotes prior to 11:00. Days are considered above the inside spread when the ISDA fix is greater than the lowest ask and below the inside spread when it is lower than the highest bid.

**Percentage of Days where ISDA Fix was Above or Below the Inside Spread
in the Period up to One Minute Prior to 11:00
2008 - December 18, 2012**



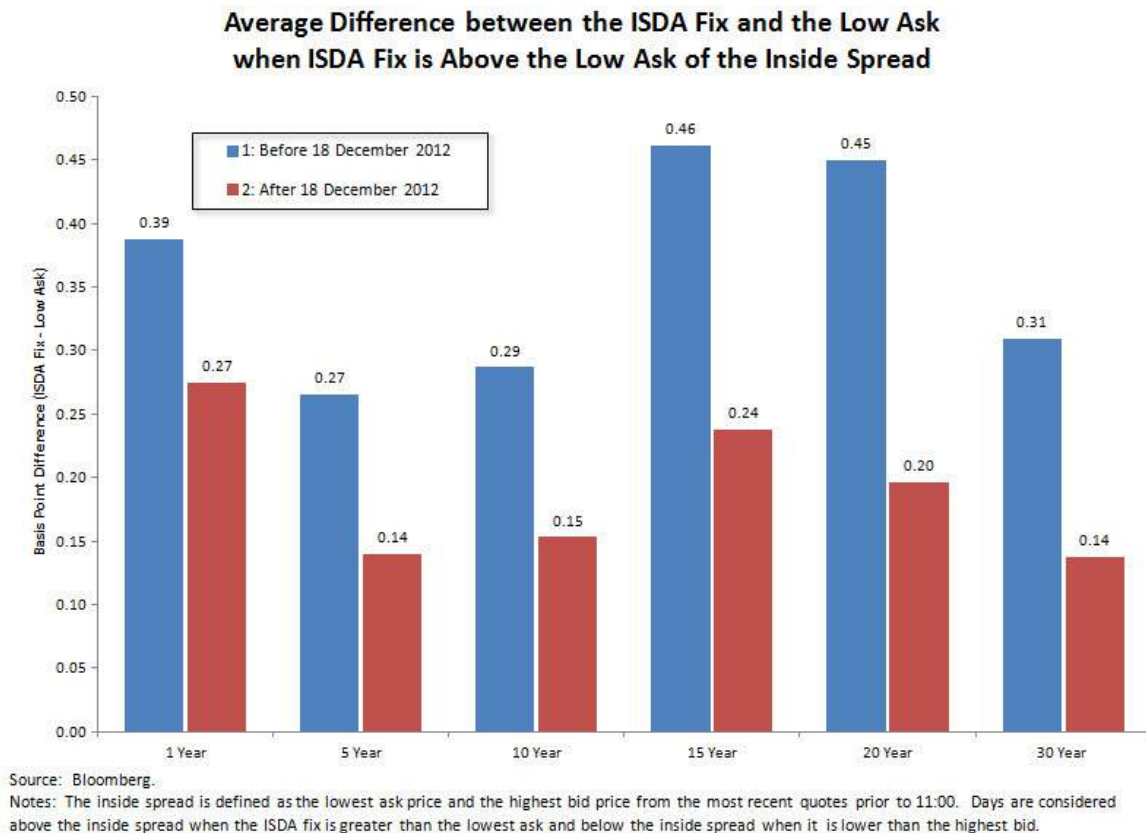
Source: Thomson Reuters.

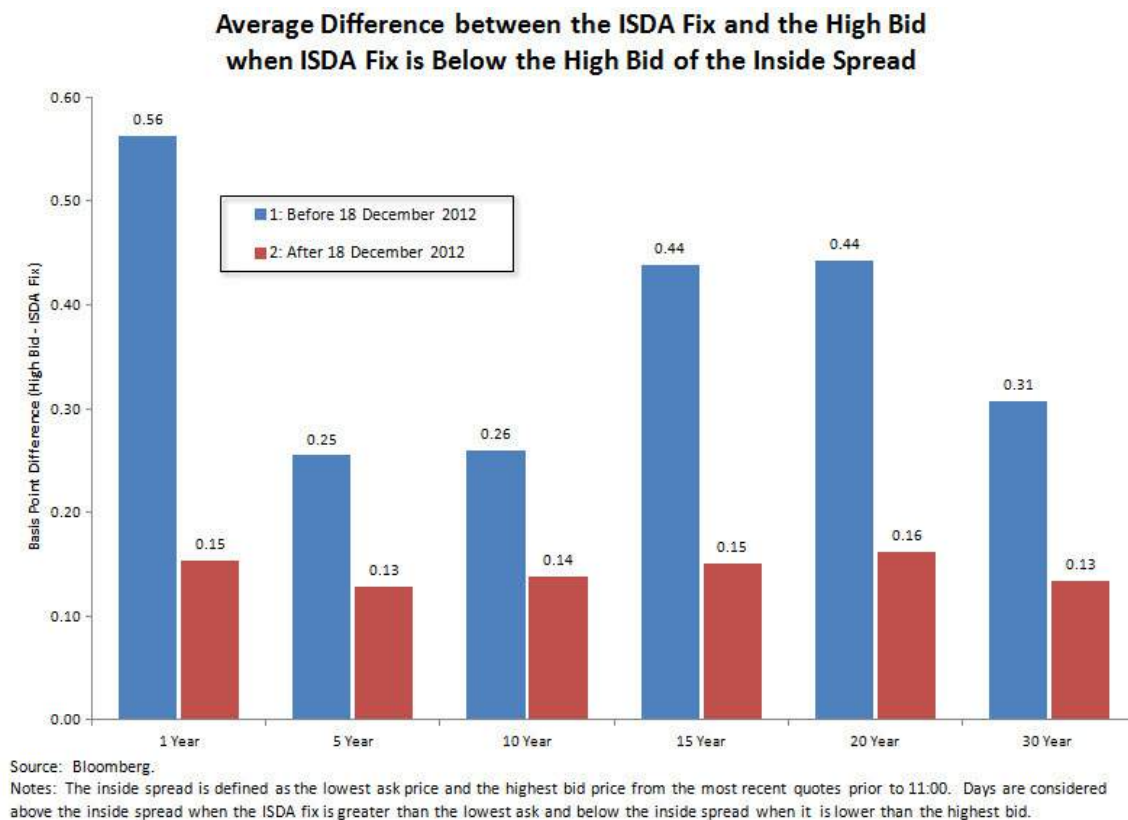
Notes: The inside spread is defined as the lowest ask price and the highest bid price from the most recent quotes prior to 11:00. Days are considered above the inside spread when the ISDA fix is greater than the lowest ask and below the inside spread when it is lower than the highest bid.

173. Of course, markets do move minute to minute. But if there was an innocent explanation for the gap between pre-11:00 a.m. market rates and ISDAfix, then one would

expect to see it continue with similar frequency in size. As seen in the line charts further above, it did not – the lines started to converge in 2013. The “inside spread” analysis shows the same break in the pattern. The following charts compare the ISDAfix rate with market rates before December 2012 (blue bar) and after (red bar). They show that, for all tenors, the average difference between the relevant ISDAfix rate and the highest or lowest market rates was significantly less following the regulatory scrutiny that commenced at the end of 2012. The first two graphs depict Bloomberg data, the second two use data from Thomson Reuters.

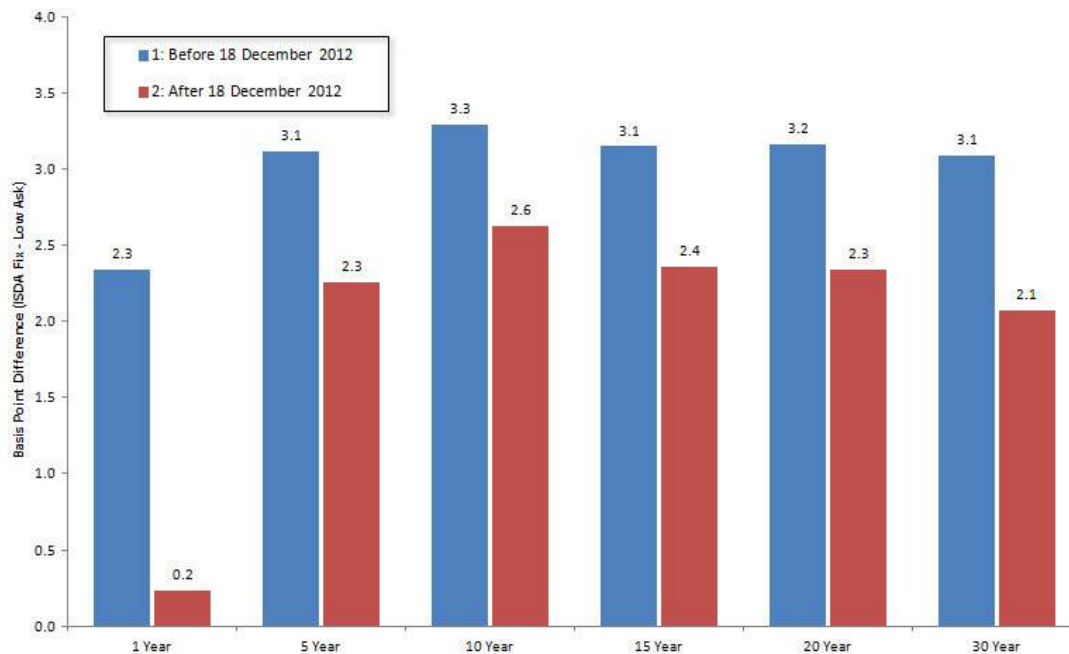
174. The differences illustrated below in the charts using Bloomberg data are statistically significant to the 95th percentile in the 1, 5, and 10 year tenors for the analysis of when ISDAfix is above the low ask, and statistically significant to the 95th percentile across all tenors for the analysis of when ISDAfix is below the high ask.





175. The differences illustrated below in the charts using Thomson Reuters data are statistically significant to the 95th percentile in all tenors except one year in the analysis of when ISDAfix is above the low ask, and statistically significant to the 95th percentile across all tenors compared for which data was available for the analysis of when ISDAfix is below the high ask.

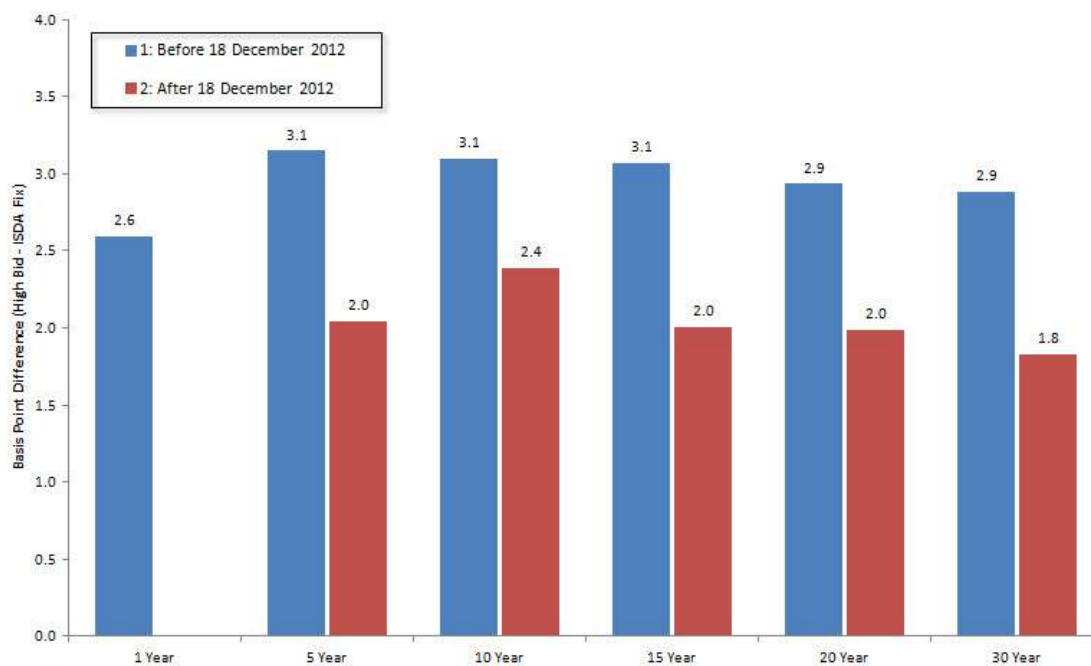
**Average Difference between the ISDA Fix and the Low Ask
when ISDA Fix is Above the Low Ask of the Inside Spread**



Source: Thomson Reuters.

Notes: The inside spread is defined as the lowest ask price and the highest bid price from the most recent quotes prior to 11:00. Days are considered above the inside spread when the ISDA fix is greater than the lowest ask and below the inside spread when it is lower than the highest bid.

**Average Difference between the ISDA Fix and the High Bid
when ISDA Fix is Below the High Bid of the Inside Spread**



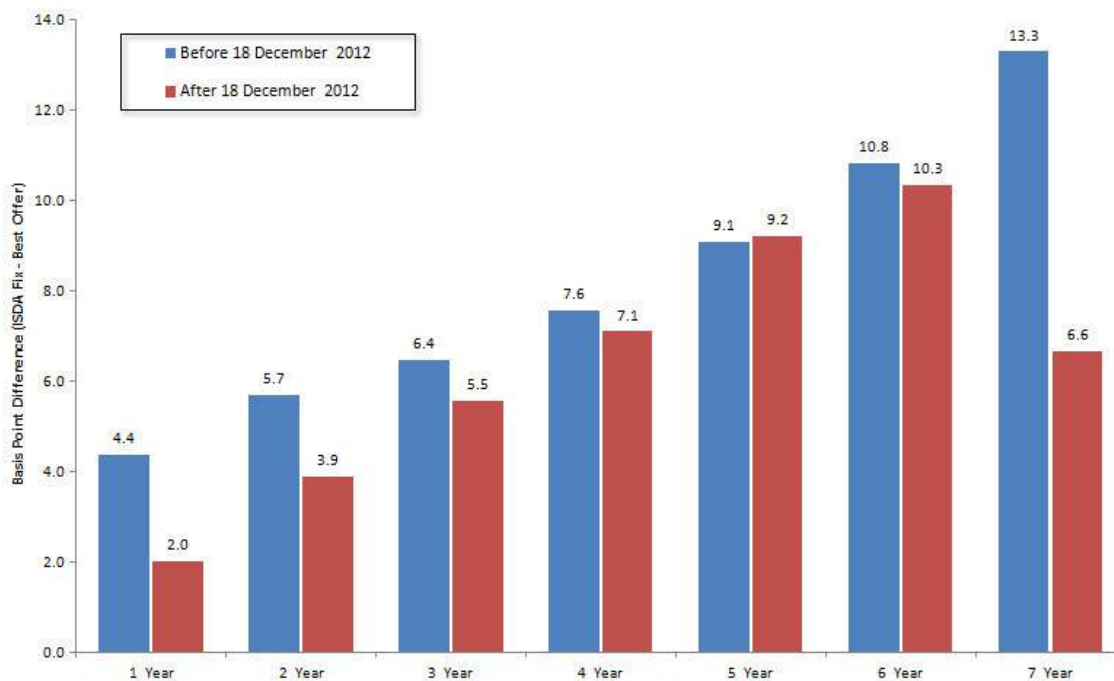
Source: Thomson Reuters.

Notes: The inside spread is defined as the lowest ask price and the highest bid price from the most recent quotes prior to 11:00. Days are considered above the inside spread when the ISDA fix is greater than the lowest ask and below the inside spread when it is lower than the highest bid.

176. The same pattern can be seen by measuring the average difference between the ISDAfix rate and the best bid or offer immediately prior to the polling window before December 2012, and then again afterwards. The preceding charts are based on swap rates reported by either Bloomberg or Thomson Reuters; the following charts are based on Eurodollar futures traded on the CME, from which one can infer swap rates.⁶⁵ With only one exception, the pre-December 18, 2012 average difference is always greater than for the subsequent period across all tenors analyzed. And for the majority of tenors (1, 2, 3, and 7 year when ISDAfix is above the imputed best offer; 1, 2, 3, 4, 5, and 6 year when ISDAfix is below the imputed best offer) the difference between the two periods is statistically significant to 95th percentile.

⁶⁵ Eurodollar futures are based on a \$1 million face value, 3-month maturity Eurodollar Time Deposit. A Eurodollar futures strip may be bought or sold by buying or selling a series of futures maturing in successively deferred months, often in combination with a cash investment in the near term. The purchase of this series or strip of Eurodollar futures locks-in an investment value over each subsequent 3-month period. Eurodollar futures are linked to the interest rate swap market as a source for pricing and a tool to hedge the risks associated with swaps. Banks and broker-dealers making a market in over-the counter swaps represent primary Eurodollar market participants. Investors often compare the value of “synthetic” investments created with Eurodollar futures strips to yields associated with comparable term investments. The CME makes available intraday bid and the offer prices on Eurodollar futures, which can be used to derive a point estimate of what ISDAfix should be at each maturity, as well as a bid-ask spread.

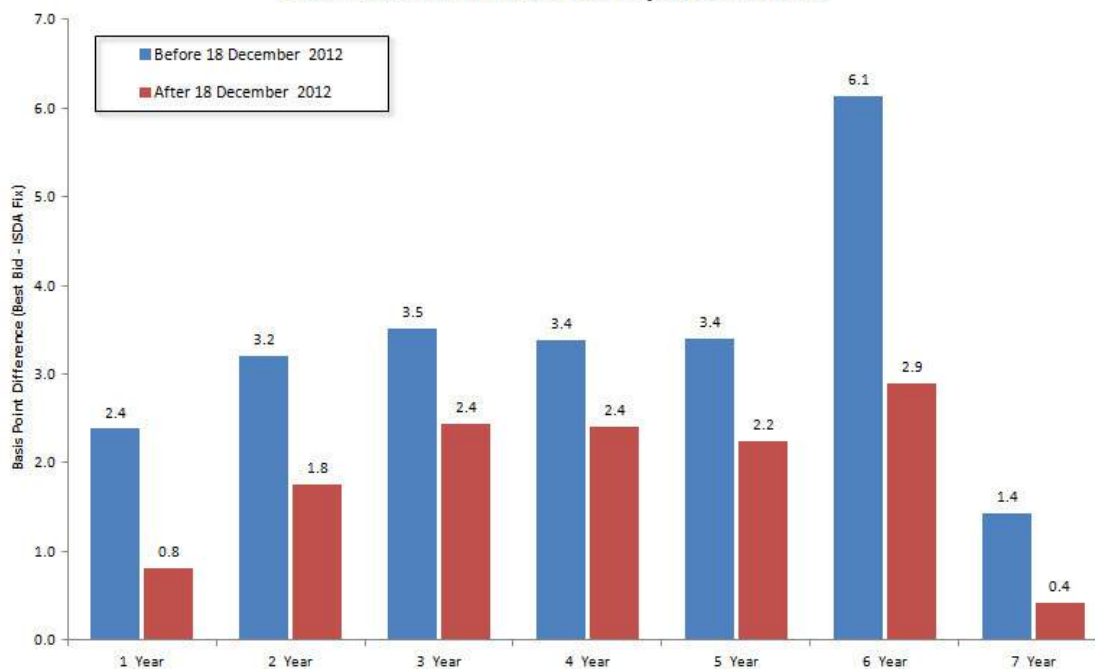
**Average Difference between the ISDA Fix and the Imputed Best Offer
When ISDA Fix is Above the Imputed Best Offer**



Source: CME BBO Data, available for the period August 18, 2008 to September 19, 2014.

Note: Best bid and offer rates are imputed from Eurodollar trading data. The underlying Eurodollar bids and offers are the best bids and offers outstanding before 11 a.m. London time.

**Average Difference between the ISDA Fix and the Imputed Best Bid
When ISDA Fix is Below the Imputed Best Bid**



Source: CME BBO Data, available for the period August 18, 2008 to September 19, 2014.

Note: Best bid and offer rates are imputed from Eurodollar trading data. The underlying Eurodollar bids and offers are the best bids and offers outstanding before 11 a.m. London time.

177. Plaintiffs' experts performed other tests to rule out the possibility that the anomalies discussed above – and their abatement in 2013 – were the result of changes in the underlying market. One way to confirm that the gap between the final ISDAfix rates and market rates immediately prior to 11:00 a.m. were not driven by natural (and thus random) inter-minute shifts in the market is to track how often the movement was up versus down. Over a long enough time horizon, just as there is essentially no chance of obtaining 600, 700 or more heads if one flips a coin 1,000 times, the ISDAfix rate should not be disproportionately off in one direction or the other. To the contrary, ISDAfix rates were *unnaturally* more often “low” compared to what the market was doing right before the polling window.

178. Plaintiffs' experts performed other analyses to rule out natural market movements as an explanation for how ISDAfix departed from pre-11:00 a.m. market rates. One of the cornerstones of efficient markets is that past price movements should not be able to predict future price movements. While market forces might be able to explain a particular price movement between 10:55 and 11:00 a.m. on a particular day, there should be no long-term statistical relationship between the direction of price movement over this five minute price from one day to the next. In other words, over a long time horizon, just because the market moved down between 10:55 a.m. and 11:00 a.m. on one day should not allow one to confidently predict it would do the same between 10:55 a.m. and 11:00 a.m. on the next day.

179. For this reason, one of the standard ways to evaluate the efficiency of a market is to test for “autocorrelation,” or the ability of past price movements to explain future price movements. An autocorrelation test is done by running a regression analysis that assesses whether an earlier (usually prior day) price movement has the ability to predict what happens the next day. Experts retained by Plaintiffs have performed such an analysis looking at whether the

difference between the published ISDAfix rates versus prevailing prices just minutes prior to the fix are correlated from one day to the next.

180. In a market free of manipulation, one would expect the coefficients to be close to zero and statistically insignificant because there should be no relationship between price movements during the minutes prior to 11:00 a.m. from one day to the next.

181. In fact, where there was a difference between the market rates just before the polling window and the ISDAfix rate *prior to December 2012*, the size and direction of that difference on a given day *foreshadowed a difference of predictable magnitude, in the same direction, on the following day*. The odds of observing this relationship over an extended period across all of these maturities by random chance is infinitesimal. The only way a movement would occur repetitively in this way is if there is deliberate and artificial price pressure – *i.e.*, the same forces or persons responsible for the intra-minute movements on one day, were making sure the same thing happened the next day.⁶⁶

182. The asterisks in the table below denote where there was a statistically significant (*i.e.*, 95% confidence) correlation between the direction of one day's movement during the measured interval, and the next day. Nearly all maturities across nearly all intervals showed statistically significant positive correlation prior to December 19, 2012. After December 19, 2012, many fewer do. In other words, this test is yet another one that confirms that the swaps market was moving artificially during the same period Defendant Banks were rubberstamping the reference rate, but not during the period when Defendant Banks began to stop doing so.

⁶⁶ Notably, according to Plaintiffs' experts, that the market behaved this abnormally confirms that the spikes in volatility around the setting window cannot be adequately explained by market actors independently trying to hedge themselves. If that were the case, over a long time horizon such as that studied here, one would not find such powerful correlation from day to day – nor would one expect to see a change in the correlation before and after December 2012.

Regression Results Evaluating Whether Degree to which Fix Rate Differed from Prevailing Market Rates on Day T is Correlated with Same Measure on Day T+1 During Manipulation Period Compared to Post-Manipulation Period (Autocorrelation Test):

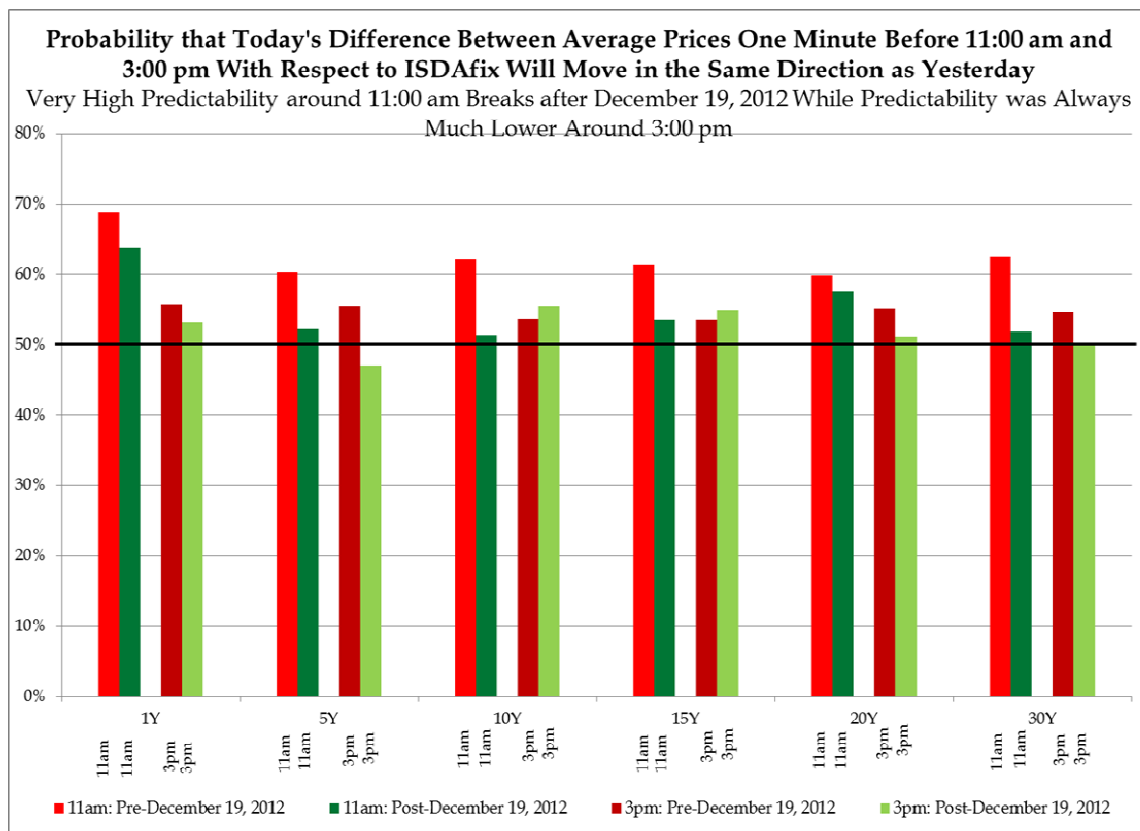
Fixing Price Compared to Prevailing Market Price:	Maturity	Manipulation Period			Post-Manipulation Period		
		Coefficient on Prior Day's Fixing Price Compared to Prevailing Price	t-stat	Significant at 95% Confidence Level	Coefficient on Prior Day's Fixing Price Compared to Prevailing Price	t-stat	Significant at 95% Confidence Level
1 minute prior to 11:00 a.m. fixing period	1 YR	0.323	10.01	**	0.088	1.65	
	5 YR	0.211	7.49	**	-0.072	-1.58	
	10 YR	0.311	8.75	**	-0.026	-0.56	
	15 YR	0.142	4.95	**	0.15	3.36	**
	20 YR	0.142	4.97	**	0.112	2.49	**
	30 YR	0.047	1.62		0.026	0.58	
2 minutes prior to 11:00 a.m. fixing period	1 YR	0.306	10.72	**	0.089	1.77	
	5 YR	0.217	7.71	**	-0.054	-1.2	
	10 YR	0.27	9.74	**	-0.056	-1.25	
	15 YR	0.162	5.69	**	0.145	3.25	**
	20 YR	0.167	5.93	**	0.07	1.56	
	30 YR	0.059	2.03	**	0.017	0.38	
3 minutes prior to 11:00 a.m. fixing period	1 YR	0.344	12.4	**	0.049	1.03	
	5 YR	0.191	6.74	**	-0.059	-1.31	
	10 YR	0.244	8.78	**	-0.051	-1.12	
	15 YR	0.158	5.57	**	0.166	3.73	**
	20 YR	0.15	5.28	**	0.081	1.8	
	30 YR	0.078	2.69	**	0.011	0.25	
5 minutes prior to 11:00 a.m. fixing period	1 YR	0.366	13.4	**	0.056	1.2	
	5 YR	0.154	5.43	**	-0.044	-0.97	
	10 YR	0.193	6.82	**	-0.03	-0.67	
	15 YR	0.131	4.59	**	0.139	3.11	**
	20 YR	0.141	4.96	**	0.064	1.42	
	30 YR	0.076	2.6	**	0.015	0.33	
30 minutes prior to 11:00 a.m. fixing period	1 YR	0.241	8.56	**	0.064	1.43	
	5 YR	0.095	3.29	**	0.01	0.22	
	10 YR	0.089	3.11	**	0.04	0.88	
	15 YR	0.114	4.01	**	0.089	1.98	**
	20 YR	0.103	3.65	**	0.088	1.97	**
	30 YR	0.035	1.19		0.052	1.16	

Manipulation Period: 1/1/08 – 12/18/12, Post-Manipulation Period: 12/19/12 – 12/15/14

** Statistically Significant at greater than 95% Confidence Level

183. Plaintiffs' experts have confirmed that the patterns of market inefficiency and artificiality described above did not occur at other times of the day. When comparing the probability that the difference between prices at 10:59 a.m. and ISDAfix will take the same sign the following day, they found that to be at least 60% prior to December 19, 2012, while such

probability became closer to 50% since then, as illustrated in the chart below by a much larger first red bar than first green bar. When the same experiment is run at another time of the day, for prices at 2:59 p.m. against ISDAfix, the probability was closer to 50% prior to December 19, 2012 as it should under efficient markets, but it did not meaningfully change from before to after December 19, 2012. These results are consistent with intentional artificiality in prices leading up to 11:00 a.m. through 2012 but not leading up to 3:00 p.m.



D. Evidence that Defendants Were Jointly Behind These Trading Anomalies

184. There is extremely limited public data allowing Plaintiffs to link specific transactions to Defendant Banks. But it is nonetheless clear that they, jointly, were behind the attempts to move the swaps market to artificial price levels.

185. *First*, as discussed in Section I.A above, Defendants, as the dealers of cash-settled swaptions, had by far the strongest motive here. They stood to gain (or lose) far more from

controlling USD ISDAfix than other market participants. Indeed, Defendants Bank of America, Goldman Sachs, Citibank, and JPMorgan *alone* accounted for *over 90%* of the reported outstanding total notional amount of interest rate derivatives in the U.S. market over the course of the entire Class Period.

186. *Second*, Defendants also were uniquely situated to successfully manipulate ISDAfix. Only they, *collectively*, had the “ammo” to be able to consistently push through (or hold back) enough transactions to move the reference rate. No individual market participant – even a Defendant Bank – could or would have done so acting alone. It would have been too risky to push through off-market transactions unilaterally.

187. *Third*, that only the Defendant Banks had the motive and opportunity to move ICAP’s ISDAfix reference rate by manipulating the prices for swaps – and only if they were acting jointly – is confirmed by the fact that the final ISDAfix rate was actually based on a polling of the Defendant Banks. Only with a conspiracy in place to rubberstamp the reference rate would *anyone* have an incentive to try to manipulate the market for swaps around the fixing window. Without that back-end conspiracy in place, the risks of pushing through off-market trades would be unjustifiable, as the effects of doing so would likely be wiped out by the honest application of ICAP’s polling of the Defendant Banks.

188. *Fourth*, the Defendant Banks provided rubberstamps for the reference rate every day for years. The uniformity of the submissions confirms there was a conspiracy on the back-end. But there would have been no reason for Defendants to agree to rubberstamp the reference rate, in violation of ICAP’s procedures, unless the reference rate was exactly where they wanted it to be. This again confirms it was Defendants’ joint actions that are behind the trading anomalies in the market for swaps on the front-end.

189. *Fifth*, after December 2012, *all* of the Defendants' responses to ICAP started to disagree with each other far more often. After December 2012, the frequency and severity of anomalies in the swap markets also started to wane. That both signs of manipulation abated at the same time is powerful, further evidence that the same group of actors (Defendants) were behind the trading anomalies in the first place.

190. *Sixth*, merely rigging ISDAfix via false submissions to ICAP day after day would likely have been too obvious. ISDAfix could not stray *too* far from market rates (which were already manipulated leading up to 11:00 a.m.) without people likely noticing. And the Defendant Banks' submissions would be *even more clearly* signs of collusion if they matched to the fifth decimal point at some number *other than* the reference rate. Further, rigging ISDAfix merely by false submissions to ICAP would have required express, daily coordination among *all* submitting members. Such is a more complex method than just agreeing to (a) have all Banks rubberstamp the reference rate no matter what, thereby allowing (b) smaller subgroups of Banks to manipulate ISDAfix, through the swaps market and ICAP's willingness to further manipulate the reference rate, without the express coordination of all other conspiracy members every single day. Banks that were agnostic as to what ISDAfix should be on a given day could be simply left out of the loop, but nonetheless add value to the conspiracy by parroting the reference rate back to ICAP regardless of its unilateral, true, and actual pricing decisions in the market.

191. *Seventh*, the ISDAfix conspiracy makes sense, even if not every bank shared the same interest in manipulation on a given day. What held the conspiracy together was not necessarily any one day's ISDAfix movement in particular, but rather the shared interest in having the power to move ISDAfix when it mattered to any sub-groups of participants the

most.⁶⁷ Whereas a bank may be agnostic to ISDAfix on a given day because of its portfolio, it was nonetheless willing to provide a rubberstamp that day knowing doing so would be repaid in kind on days when it took the lead in manipulating the swaps market and, through it, the reference rate.

IV. PLAINTIFFS WERE INJURED AS A RESULT OF DEFENDANTS' MANIPULATION

192. Plaintiffs – who entered into *thousands* of interest rate derivative transactions during the Class Period, including the swaps, swaps whose cash flows were tied to ISDAfix, and swaptions detailed in Appendix A – were injured by Defendants' manipulation of ISDAfix in the following ways. As discussed above, the manipulation here has already been found to be *pervasive* throughout the Class Period. *Thousands* of instances of manipulation across multiple tenors have already been identified, only with the benefit of public information. That Defendants *almost daily* submitted identical rates, and other facts herein, support the allegation that in fact the conspiracy operated *every single day* in the Class Period. It is only with discovery, however, that the identification of which days were manipulated, in what amount, can be fully mapped out.

A. Swaps, Swaptions, and Other Contracts that Expressly Reference ISDAfix

193. Many swaptions and other contracts directly incorporate ISDAfix into their terms. Plaintiffs and members of the Class entered into numerous such contracts with Defendants throughout the Class Period. Thus, as ISDAfix was manipulated, the cash flows for these contracts (particularly the amounts paid at settlement) were directly impacted, too.

⁶⁷ How much a Defendant Bank has to pay to the purchaser of an in-the-money swaption typically depends entirely on the ISDAfix rate on the exercise date. That the final cash flows for such contracts turned entirely on one day's rate also further explains how the conspiracy could be held together – on many days, many members were likely agnostic to the desire of other conspiracy members to move the rate, even though between them all there was likely always at least some who had an interest in moving it.

194. For example, members of the Class who entered into fixed-for-floating rate swaps as fixed rate receivers were injured in any instance where the fixed rate payments were expressly linked to ISDAfix and ISDAfix was suppressed on a payment date. Plaintiffs' experts analyzed the non-standard constant maturity swap transaction entered into by Plaintiff Montgomery County on which Montgomery County was to receive periodic cash-flows computed as the 68% of the weighted average of six 5-year ISDAfix rates plus a spread of 5.5 basis points. Plaintiffs' experts identified 11 of the relevant periodic ISDAfix rates displaying an anomalous suppression of swap rates with an average quantum of over 2.5 basis points. This suppression led to a reduction in the value of the ISDAfix-linked cash-flows payable to Montgomery County. The relevant ISDA Master Agreement and Confirmation are attached as Appendix S.

195. Member of the Class who entered into fixed-for floating rate swaps as floating rate receivers were also injured in any instances where the floating rate payments were expressly linked to ISDAfix and ISDAfix was suppressed on a payment date. For example, Plaintiff Washington County entered into a payer swaption with Defendant JPMorgan dated May 26, 2005, with an option exercise date of June 1, 2012, and an effective date of September 1, 2012. As amended, JPMorgan was the floating rate payer on the underlying swap transaction, and required to pay Washington County on a floating rate formula of "the product of (i) 59.10% and (ii) USD-ISDA-SWAP Rate" for a designated maturity of 10 years. Washington Country accordingly suffered loss from any downward manipulation by Defendants of the 10-year ISDAfix rate on any of JPMorgan's floating rate payment dates. On the data currently available to them, Plaintiffs' experts have identified manipulation on numerous such dates. The relevant ISDA Master Agreement and Confirmation are attached as Appendix T.

196. Members of the Class who bought a cash-settled *payer* swaption from a Defendant, where that swaption was in-the-money on the exercise date, received a lower cash settlement amount from Defendant in any instance where Defendants manipulated the ISDAfix rate downward on or shortly prior to that date. This injury occurred because the cash settlement amount the buyer of an in-the-money cash-settled payer swaption is entitled to receive is the difference in value between the underlying swap transaction and an equivalent swap transaction available on the open market on the exercise date. Where the ISDAfix rate is higher on the exercise date than it would otherwise have been (absent manipulation), the amount of that difference will be smaller. Defendants' suppression of the ISDAfix rate thereby directly impacted an express term of the payer swaption contract between members of the Class and Defendants, and thereby caused injury to members of the Class.

197. Members of the Class who bought a cash-settled *receiver* swaption from a Defendant, where that swaption was in-the-money on the exercise date, received a lower cash settlement amount from Defendant in any instance in which Defendants manipulated the ISDAfix rate upward on or shortly prior to that date. Again, this injury occurred because the cash settlement amount the buyer of an in-the-money cash-settled receiver swaption is entitled to receive is the difference in value between the underlying swap transaction and an equivalent swap transaction available on the open market on the exercise date. Where the ISDAfix rate is lower on the exercise date than it would otherwise have been (absent manipulation), the amount of that difference will be smaller. Defendants' inflation of the ISDAfix rate thereby directly impacted an express term of the receiver swaption contract between members of the Class and Defendants, and thereby caused injury to members of the Class.

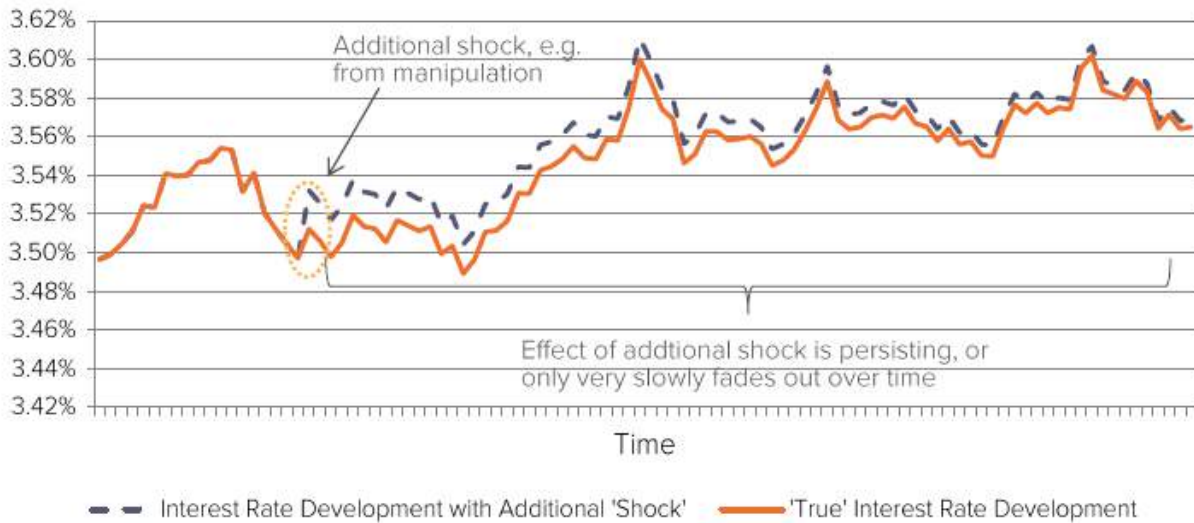
B. Swaps and Other Derivatives that Do Not Expressly Incorporate ISDAfix

198. Even plain vanilla swaps that did not contain ISDAfix as a contractual term, and other interest rate derivatives, were impacted by Defendants' scheme.

199. As discussed above, Defendants manipulated ISDAfix by first manipulating the reference rate. This was done through such manipulative trading practices as "banging the close" and the withholding of execution data until after the reference rate had been set. In other words, fixing the prices in the market for swaps was a key component in Defendants' scheme to rig ISDAfix.

200. The pricing distortions caused by Defendants' conspiracy go beyond the literal minutes when Defendants "banged the close" or engaged in other manipulative conduct. Prices and pricing trends were distorted by Defendants' attempts to manipulate the reference rate ICAP would use as part of the ISDAfix setting process. Transactions that would have been spread out over the course of the day – or never happened at all – were instead bunched around the fixing window. Other transactions were either withheld, or their existence was hidden from the market until later. All this was done collectively to move prices in the market for swaps.

201. Further, when a market experiences a "shock," its path going forward could be shifted, even if the future *relative* movements would be the same. Plaintiffs' experts found that this was the case with swap rates during the relevant period. Employing a linear auto-regressive integrated moving average (ARMA) time series model, Plaintiffs' experts estimated the extent to which changes in the level of an interest rate for a given ISDAfix tenor persist when caused by an external "shock" (such as significant increase or decrease in that rate due to manipulation). As can be seen in the following with- and without-manipulation chart for the model, prices follow the same general path of ups and downs in each case – but there is a consistent gap between the two, indicating a lasting effect of the information "shock."



202. By measuring this relationship using two established, complementary statistical tests – “Augmented Dickey-Fuller” and “Kwiatkowski-Phillips-Schmidt-Shin” – Plaintiffs’ experts analyzed the degree of “non-stationarity” for interest rate swap prices.⁶⁸ That is, the degree to which any changes in price will impact the price over a given time period. Plaintiffs’ experts concluded, to a 95% level of statistical confidence, that the 30Y rate was non-stationary on 74% of days within the Class Period, the 10Y rate was non-stationary on 78% of days within the Class Period, and the 5Y rate was non-stationary on 68% of Class Period days. The majority of days in the Class Period therefore exhibited stochastic properties such that the impact of new information was observable for a significant amount of time, rather than the impact fading as other intra-day movements and information developed.

⁶⁸ For the foundational academic contributions outlining these statistical tests and explaining their complementarity, see D. Dickey and W. Fuller, *Distribution of the Estimators for Autoregressive Time Series With a Unit Root*, 74 *Journal of the American Statistical Association* 366, 427-31 (1979); D. Kwiatkowski, P. Phillips, P. Schmidt, and Y. Shin, *Testing the Null Hypothesis of Stationarity Against the Alternative of a Unit Root*, 54 *Journal of Econometrics* 159-78 (1992).

203. These results confirm that swap rates show a “memory effect.” Any manipulation of during one part of the day (such as around 11:00 a.m.) thus had effects on the price of interest rate swaps over the course of that entire day.

204. Members of the Class who entered into fixed-for-floating rate swaps as fixed rate payers (or, equivalently, floating rate receivers) were injured in any instance in which Defendants manipulated the ISDAfix rate upward on or shortly prior to the date of entry. This injury occurred because the market rate payable under that swap was upwardly influenced by Defendants’ manipulation of ISDAfix, and members of the Class were thereby required to make higher fixed rate payments under the swap than they would have been in an unmanipulated market.

205. Members of the Class who entered into fixed-for-floating rate swaps as fixed rate receivers (or, equivalently, floating rate payers) were injured in any instance in which Defendants manipulated the ISDAfix rate downward on or shortly prior to the date of entry. This injury occurred because the market rate payable by the members of the Class under that swap was downwardly influenced by Defendants’ manipulation of ISDAfix, and the members of the Class were thereby entitled to receive lower fixed rate payments under the swap than they would have been in an unmanipulated market.

206. For example, Plaintiffs’ experts identified an anomalous suppression of 10-year swap rates on October 20, 2010, when Plaintiff Alaska Electrical entered into an interest rate swap with a notional value of \$1 million and a maturity of ten years as a fixed rate receiver. This anomalous activity had the effect of decreasing the fixed rate receivable by Plaintiff Alaska Electrical by up to 3.3 basis points.

207. Plaintiffs who entered into physically-settled swaptions suffered harm as a result of Defendants' manipulation in two ways: First, if a physically-settled payer swaption was traded on a date where Defendants manipulated the market for interest rate swaps to influence the ISDAfix price, then the strike price of that swaption would have been affected by that manipulation. As a result, the swaption buyer received a less favorable strike price for the premium they paid than they would in the absence of the Defendants' manipulation, and their transaction would become less valuable. If the swaption expires in the money, then while the swaption buyer would still make a profit on the trade, the less favorable strike would reduce such profits.

208. For example, Plaintiffs' experts identified an anomalous suppression of five-year swap rates on 24 May 2007, when Plaintiff Genesee bought a physically-settled swaption with a notional of USD 1,200,000 and a maturity of 5 years as fixed rate receiver. This anomalous suppression would have had the impact of reducing the swaption's at-the-money strike price by an amount equal to the quantum of the anomalous suppression, in this case, two basis points. This swaption expired in-the-money and was exercised. Once exercised, the anomalous activity on the trade date would have damaged Genesee by having the effect of suppressing the fixed rate receivable by Genesee over the five-year life of the swap by two basis points.

209. Second, if a swaption was at the money or near the money in the final days before expiry, *i.e.*, the strike price was very close to current market levels, there would be considerable uncertainty as to whether or not the swaption will expire in the money and thus be exercised. If Defendants had sold such a swaption, they could ensure that it expired out of the money such that it would not be exercised against them by manipulating the ISDAfix rate on the swaption's expiry date. If the swaption would have expired in the money in the absence of the

manipulation, the buyer of the swaption would have suffered potentially significant damages as a result of the manipulation by making a misinformed decision and not entering into what should have been a profitable underlying swap position.

V. DEFENDANTS' MISCONDUCT BREACHED THE TERMS OF THEIR SWAP, SWAPTION, AND OTHER CONTRACTS

210. All of the cash-settled swaptions and many of the other derivative transactions that settled with reference to ISDAfix were documented under the ISDA Master Agreement. ISDA Master Agreements are market-standard agreements that establish a framework for swaps and other derivative transactions between two counterparties, and oblige the parties to make payments on the terms of Confirmations entered in accordance with the Master Agreement.⁶⁹ The parties customize the ISDA Master Agreement through use of a Schedule, which contains elections, additions, and amendments. ISDA Master Agreements are also typically supplemented by a Credit Support Annex, which sets the terms of the counterparties' obligations to post collateral for net exposures under those agreements. Finally, Confirmations are used to document particular transactions.

211. Separate sets of definitions published by ISDA are used in Confirmations for transactions. For swaptions and many of the other types of derivative instruments that refer to ISDAfix, the relevant definitions are the 2006 ISDA Definitions.

212. Under the 2006 ISDA Definitions, the purchaser of an in-the-money cash-settled swaption is entitled to receive a "Cash Settlement Amount" in accordance with Section 18 of

⁶⁹ Section 2(a) of the 1992 and 2002 ISDA Master Agreements (entitled "Obligations") provides: "(a) General Conditions: (i) Each party will make each payment or delivery specified in each Confirmation to be made by it, subject to the other provisions of this Agreement."

those same Definitions.⁷⁰ The 2006 ISDA Definitions also state that it is the responsibility of the “Calculation Agent” to “determin[e] any Cash Settlement Amount.”⁷¹

213. Under the 2006 ISDA Definitions, the “Fixed Rate Payer” under a “Swap Transaction” is obliged to pay a “Fixed Amount,” and the “Floating Rate Payer” under the same type of Transaction is obliged to pay a “Floating Amount” in accordance with Sections 5 and 6 of those same definitions.⁷² The 2006 ISDA Definitions also state that it is the responsibility of the “Calculation Agent” to “calculat[e] any Floating Amount payable on each Payment Date or for each Calculation Period” and to “calculat[e] any Fixed Amount payable on each Payment Date or for each Calculation Period.”⁷³

214. The 2006 ISDA Definitions further state that “[w]henver the Calculation Agent is required to act, make a determination or to exercise judgment in any other way, it will do so in good faith and in a commercially reasonable manner.”⁷⁴

215. As standard market practice, the Schedules to the ISDA Master Agreements involved here specify that each Defendant would act as “Calculation Agent” for the interest rate derivatives it entered into with Plaintiffs and the Class. As both the 2000 and 2006 ISDA Definitions expressly state, Defendant Banks, as Calculation Agents, had a duty to determine Cash Settlement Amounts, Floating Amounts, and Fixed Amounts in good faith for every

⁷⁰ ISDA, *2006 ISDA Definitions*, Section 14.1(a). Under the *2000 ISDA Definitions*, which parties could choose to apply to their transactions even after 2006, the purchaser of an in-the-money cash-settled swaption was entitled to receive a “Cash Settlement Amount” in accordance with Section 17 of those same Definitions, pursuant to Section 13.1(a).

⁷¹ *Id.*, Section 4.14.

⁷² *Id.*, Section 2.1 and 2.2. These obligations and the relevant sections are the same under the *2000 ISDA Definitions*.

⁷³ *Id.*, Section 4.14.

⁷⁴ *Id.*, Section 4.14.

swaption or swap transaction they entered into. Defendant Banks breached such terms, and others, in each of their respective agreements when they determined Cash Settlement Amounts, Floating Amounts, and Fixed Amounts based on ISDAfix rates that Defendant Banks knew were manipulated.

216. The ISDA Master Agreements also have a term requiring that each party “comply in all material respects with all applicable laws . . . to which it may be subject if failure so to comply would materially impair its ability to perform its obligations under this Agreement.”⁷⁵ Defendant Banks breached such terms, and others, in each of their respective agreements when they violated numerous laws by colluding to manipulate and actually manipulating ISDAfix rates.

217. The Defendant Banks’ conduct also breached their implied duty of good faith and fair dealing created by their respective contractual relationships with Plaintiffs and the Class. The manipulation of ISDAfix rates allowed Defendant Banks either to make their own positions more profitable or to make their counterparties’ position worth less.

218. In sum, under the terms of the Class Members’ ISDA Master Agreements and standard ISDA definitions, in cash-settled swaptions ISDAfix was hard-wired into the transactions, and thus in carrying out the calculation and similar duties discussed above, the Defendant Banks were obligated to look to it in good faith and a commercially reasonable manner. Similarly, under the terms of the Class Members’ ISDA Master Agreements and standard ISDA definitions, in swaps where one leg was pegged to ISDAfix, ISDAfix was hard-wired into the transactions, and thus in carrying out the calculation and similar duties discussed

⁷⁵ ISDA, *ISDA Master Agreements 1992 and 2002*, Section 4.

above, the Defendant Banks were obligated to look to it in good faith and a commercially reasonable manner.

**EQUITABLE TOLLING OF THE STATUTE OF LIMITATIONS DUE TO
DEFENDANTS' CONCEALMENT OF THE CONSPIRACY**

219. Defendants actively and effectively concealed their collusion, as alleged herein, from Plaintiffs and the Class. As a result of Defendants' fraudulent concealment, all applicable statutes of limitations affecting Plaintiffs' and the Class' claims have been tolled.

220. Defendants' conspiracy was by its nature secretive and self-concealing. Defendants engaged in a form of price fixing, which is inherently self-concealing and could not be detected by Plaintiffs or other members of the Class. The secret nature of Defendants' conspiracy – which relied on non-public methods of communication, such as secure websites and private phone calls, to conceal their agreements to manipulate ISDAfix – prevented Plaintiffs from uncovering their unlawful conduct.

221. Moreover, Defendants actively conspired to conceal their unlawful conduct. Defendants actively and jointly undertook trading strategies designed to conceal their collusive conduct by, as alleged above, executing trading strategies to push the “reference point” used by ICAP to a particular level so as to conceal their submission of off-market quotes to ICAP. The Defendant Banks also conspired with ICAP to delay the publication of real transactions to conceal the rates at which they were then executing, so as to prevent their conspiracy from being uncovered.

222. Throughout the Class Period, Defendants, both individually and through ISDA (the trade association in which all were members), actively participated in the fraudulent concealment of the scheme by affirmatively misrepresenting the method by which the ISDAfix

was calculated. For example, an ISDA press release issued on September 12, 2006 announcing a new ISDAfix product, described ISDAfix as follows:⁷⁶

ISDAFIX is a leading benchmark for fixed rates on interest rate swaps worldwide. The service provides average mid-market swap rates for a range of major currencies at selected maturities and is based on information collected by Reuters and ICAP.

223. ISDA also published documents purporting to explain in greater detail how ISDAfix was calculated on its website. The oldest version available to Plaintiffs, which was downloaded on June 30, 2012, represents the process as follows:⁷⁷

How does ISDAFIX fix?

Rate Definition.

The contributor is asked to provide a rate which is the mean of where that dealer would itself offer and bid a swap in the relevant maturity for a notional equivalent amount of US \$50 million or whatever amount is deemed market size in that currency for that tenor to an acknowledged dealer of good credit in the swap market. The rate should not be where the dealer sees mid-market away from itself, but should be a function of its own bid/offer spread.

* * *

Contributions collected by ICAP and the rate calculated by Thomson Reuters (USD, USD Spread):

ICAP collects spread information from contributors via a secure website that contributors log into every morning. Contributors are asked to indicate the USD swap spread as of 11:00 am, in accordance with the criteria set by ISDA as detailed above. At 10:58 am, ICAP will send an email reminder to each contributor reminding them to contribute. At 11:02 am, ICAP will indicate on the secure website a USD swap spread and USD swap rate to serve as a reference point for contributors. This reference point is generated from two sources of information.

⁷⁶ ISDA, *ISDA Adds Canadian Dollar to its Range of ISDAFIX Swap Rates* (Sept. 12, 2004), <http://www.isda.org/press/press091206.html>.

⁷⁷ ISDA, *How does ISDAFIX fix?, Rate Definition*, <https://web.archive.org/web/20120630173533/http://www2.isda.org/asset-classes/interest-rates-derivatives/isdafix>.

(1) Information contained on Reuters page 19901 at 11:00 am, which reflects the most recent swap spreads from completed trades and executable bids and offers in market size done/posted at ICAP.

(2) Information reflecting executed trades and executable bids and offers at 11 a.m. for US Treasury securities from ICAP's BrokerTec US Treasury electronic trading platform.

By their nature, because both sources of information reflect completed transactions and/or at-risk trading interest, ICAP considers them to be a useful and meaningful reference point for where the market may be at that point in time.

224. Substantially similar explanations were published by ISDA throughout the Class Period. In 2009, CME Group, the parent company of the Chicago Mercantile Exchange and other exchanges where ISDAfix-denominated products were traded, published the following description of how ISDAfix was purported to be calculated, which it stated was based on descriptions published at www.ISDA.org:⁷⁸

ISDA Benchmark swap rates are based on a rigorously organized daily poll. For each currency an ICAP or Reuters' representative canvasses a panel of dealers for their par swap rate quotes as of a specified local midday time . . . for any given swap term to maturity, the rate provided by the contributing dealer to the ICAP or Reuters surveyor is the midpoint of where the dealer would itself offer and bid a swap . . . The contributing dealer's survey response is the midpoint of its own bid/offer spread. (It is not, *e.g.*, where the dealer sees the mid-market rates being quoted or dealt away from itself).

225. The Defendants, acting through ISDA, affirmatively misrepresented the calculation of ISDAfix until the end of the Class Period. The ISDA webpage purporting to explain calculation of ISDA remained publicly available until early 2014. In addition, as discussed in greater detail above, in the ISDA/European Commission Letter, publicly distributed on November 29, 2012, ISDA represented that the ISDAfix rate is calculated based on the mean rate that each member dealer "would itself offer and bid a swap in the relevant maturity . . . The

⁷⁸ CME Group, *Interest Rate Swap Futures Reference Guide*, at 6, http://www.cmegroup.com/trading/interest-rates/files/Swap_Futures_Reference_Guide.pdf.

rate should not be where the dealer sees mid-market away from itself, but should be a function of its own bid/offer spread.”⁷⁹

226. Some or all of the Defendants also published materially misleading descriptions of the ISDAfix determination in communications with potential investors in their own financial products. For example, in SEC filings dated May 2, 2008 and May 5, 2009, Defendant Barclays Bank represented, in identical language, that the ISDAfix was set as follows:⁸⁰

ISDA is responsible for determining and publishing market swap rates. ISDA determines the rates by polling a representative sample of swap dealers each day (the polls are conducted on behalf of ISDA by ICAP plc or Reuters’ representatives either by telephone or electronic interface). ISDA then publishes the rates via Reuters and Bloomberg at various times throughout the day. The swap rates that are used for purposes of calculating the swap rate spread – which are known as ISDAfix rates – are published on Reuters page ISDAfix at 11:30 a.m. New York time.

227. Similarly, a Bank of America SEC filing dated June 15, 2012 purported to explain the method of calculating the ISDAfix as follows:⁸¹

The fixed rate of interest payable on the hypothetical swap is established by ISDAFIX. On a daily basis, ISDAFIX provided average mid-market swap rates at selected maturities in six major currencies. ISDAFIX rates are based on a mid-day and, in some markets, end-of-day polling of mid-market rates.

228. These statements by ISDA and certain Defendants were materially misleading because the data supplied by Defendants to calculate ISDAfix often did not correspond to the Defendants’ actual market prices, but was manipulated to advantage Defendants, and because the

⁷⁹ ISDA, *ISDA Response to the European Commission’s Public Consultation on the Regulation of Indices*, at 7 (Nov. 29, 2012), <http://www2.isda.org/news/isda-response-to-the-european-commissions-public-consultation-on-the-regulation-of-indices>.

⁸⁰ Barclays Form 424B3 filing for *Barclays AIMS Algorithmic Inflation Momentum Switching™ Index Notes* (May 2, 2008); Barclays Form 424B3 filing for *Barclays TrendSTAR (USD) Index Notes* (May 27, 2009).

⁸¹ Bank of America Form 424B3 filing for *Digital Return Notes Linked to CMS30* (June 15, 2012).

manipulations alleged herein caused ISDAfix interest rates to diverge significantly from “market swap rates” or “mid-market swap rates.” Each of these statements, and other similar statements, were published with the intention that members of the Class rely on them in making investment decisions. By virtue of their active participation in the conspiracy described herein, each of the Defendants was aware of the falsity of these statements. Investors did in fact rely on the representations of ISDA and the Defendants concerning the calculation of ISDAfix in determining to invest in financial instruments that reference ISDAfix.

229. Due to Defendants’ efforts to conceal their collusive conduct, Plaintiffs could not, through the exercise of reasonable diligence, have learned of facts indicating that Defendants were colluding to manipulate the ISDAfix rate until April 2013 at the earliest, when news sources first reported that the CFTC was investigating ICAP and the manner in which the ISDAfix rate is set. Even with the disclosure of the CFTC investigation, Plaintiffs at that time did not know the full scope or purpose of Defendants’ conspiracy.

230. Historical and individual submission data that might have given a vigilant would-be Plaintiff even a chance of exposing Defendants’ conspiracy was owned by ICAP and accessible only to those with access to the relevant platforms (*e.g.*, broker dealers). Any investigation was further discouraged by the prohibitive cost of the relevant data – for example, the data analyzed in connection with Plaintiffs’ investigation was available only for tens of thousands of dollars.

231. Additionally, even after investigations into the LIBOR scandal cast a spotlight on some of Defendants’ unlawful activities, Defendants did not fully break ranks, but instead continued to manipulate ISDAfix and engaged in ongoing efforts to keep their collusion hidden. It was only after subsequent investigations specifically into the manipulation of ISDAfix that

Defendants began to wind down their conspiracy. When Defendants were confronted by the media about the allegations against them, they denied them or refused to comment.⁸²

232. Thus, while Plaintiffs regularly monitored their investments and conducted due diligence to try to avoid being harmed by financial misconduct, practically speaking, there were limits to what could be done, given that so much of the over-the-counter interest rate derivatives market was opaque and shrouded in Defendants' secrecy. Further, reasonable due diligence could not have uncovered Defendants' conspiracy because: (1) Defendants' trades and trading strategies are not public information; (2) Defendants' quotes to ISDAfix were not openly published; and (3) the bilateral, non-exchange traded nature of the trades at issue further obscures what Defendants were, and are, doing at any particular time.

233. Nor could Plaintiffs have conducted the economic analyses that demonstrate the effectiveness of the scheme at any earlier time, even if the data was openly published. The analyses that statistically demonstrate the effect of the ISDAfix conspiracy rely on a comparison of pricing data before and after December 19, 2012. The substantial differences in the behavior of both inputs to ISDAfix and the resulting published interest rates between the two periods demonstrate that a conspiracy to fix prices existed before December 19, 2012, and that it began to unravel after that time in response to the publication of news related to the conspiracy affecting LIBOR. This *comparison* could not have been conducted before mid-2013.

234. As a result of the self-concealing nature of the rate-fixing conspiracy, the active steps taken by Defendants to fraudulently misrepresent the calculation of the ISDAfix and to

⁸² See, e.g., Philip Stafford, *ICAP defends role in setting benchmark rate*, Financial Times (May 14, 2013), <http://www.ft.com/intl/cms/s/0/a2a6c358-bc68-11e2-b344-00144feab7de.html>; Leising, *supra* note 16.

conceal their conspiracy, and the lack of public information concerning material aspects of the conspiracy, the statute of limitations was tolled for Plaintiffs' and the Class' claims.

CLASS ACTION ALLEGATIONS

235. Plaintiffs bring this action on behalf of themselves and as a class action under Rules 23(a), (b)(2), and (b)(3) of the Federal Rules of Civil Procedure, seeking monetary damages on behalf of the following class (the "Class"):

All persons or entities who entered into, received payments on, or terminated USD interest rate derivatives (including interest rate swaps and swaptions) with a Defendant between January 1, 2006 and June 30, 2013 (the "Class Period").

Excluded from the Class are Defendants and their employees, affiliates, parents, subsidiaries, and co-conspirators, whether or not named in this Complaint, and the United States government.

236. Plaintiffs believe that there are thousands of members of each Class as described above, the exact number and their identities being known by Defendants, making each Class so numerous and geographically dispersed that joinder of all members is impracticable.

237. There are questions of law and fact common to each Class that relate to the existence of the conspiracy alleged, and the type and common pattern of injury sustained as a result thereof, including, but not limited to:

- a) whether Defendants and their co-conspirators engaged in a combination or conspiracy to fix, raise, maintain, stabilize, and/or otherwise manipulate ISDAfix rates and the price of interest-rate derivatives in violation of the Sherman Act;
- b) the identity of the participants in the conspiracy;
- c) the duration of the conspiracy;
- d) the nature and character of the acts performed by Defendants and their co-conspirators in furtherance of the conspiracy;

- e) whether the conduct of Defendants and their co-conspirators, as alleged in this Complaint, caused injury to the business and property of Plaintiffs and other members of the Class;
- f) whether Defendants and their co-conspirators fraudulently concealed the conspiracy's existence from the Plaintiffs and the members of the Class;
- g) whether Defendants have acted or refused to act on grounds generally applicable to the Class, thereby making appropriate final injunctive relief or corresponding declaratory relief with respect to the Class as a whole;
- h) the appropriate injunctive and equitable relief for the Class;
- i) whether Defendants were unjustly enriched at the expense of Plaintiffs and the Class;
- j) whether Defendants breached their contracts with the Class;
- k) whether Defendants breached their duty of good faith and fair dealing with the Class;
- l) whether Defendants were aware of the existence of contracts that were tied to ISDAfix, and were substantially certain their manipulations would interfere with them; and
- m) the appropriate measure of damages sustained by Plaintiffs and other members of each Class.

238. During the Class Period, Plaintiffs purchased swaptions and other interest rate derivatives that were valued, executed, or settled using rates that were manipulated by Defendants, and their interests are coincident with and not antagonistic to those of the other members of the Class. Plaintiffs are members of the Class; have claims that are typical of the

claims of the Class members, and will fairly and adequately protect the interests of the members of the Class. In addition, all Plaintiffs are represented by counsel who are competent and experienced in the prosecution of antitrust and class action litigation.

239. The prosecution of separate actions by individual members of the Class would create a risk of inconsistent or varying adjudications.

240. The questions of law and fact common to the members of the Class predominate over any questions affecting only individual members, including legal and factual issues relating to liability and damages.

241. A class action is superior to other available methods for the fair and efficient adjudication of this controversy. Treatment as a class action will permit a large number of similarly situated persons to adjudicate their common claims in a single forum simultaneously, efficiently and without the duplication of effort and expense that numerous individual actions would engender. The Class is readily definable and is one for which records should exist in the files of Defendants and their co-conspirators, and prosecution as a class action will eliminate the possibility of repetitious litigation. Class treatment will also permit the adjudication of relatively small claims by many members of the Class who otherwise could not afford to litigate an antitrust claim such as the ones asserted in this Complaint. This class action presents no difficulties of management that would preclude its maintenance as a class action.

CLAIMS FOR RELIEF

FIRST CLAIM FOR RELIEF

(Conspiracy to Restrain Trade in Violation of §1 of the Sherman Act – Against All Defendants)

242. Plaintiffs hereby incorporate each preceding and succeeding paragraph as though fully set forth herein.

243. Defendants and their unnamed co-conspirators entered into and engaged in a combination and conspiracy in an unreasonable and unlawful restraint of trade in violation of §1 of the Sherman Act, 15 U.S.C. §1, *et seq.*

244. During the Class Period, Defendants were horizontal competitors in the market for interest rate swaps. They nonetheless shared with each other competitively sensitive data, such as their current portfolios and desires for the direction of the market. And they nonetheless reached agreements to coordinate efforts to move the prices for swaps in the direction they desired.

245. Prices, and pricing trends, were distorted by Defendants' attempts to manipulate the reference rate ICAP would use as part of the ISDAfix setting process. Transactions that would have been spread out over the course of the day – or never happened at all – were instead bunched around the fixing window. Other transactions were either withheld, or their existence was hidden from the market until later. All this was done in a successful, collusive attempt to move prices in the market for swaps.

246. If not for the conspiracy to rubberstamp the reference rate, no market participant would have had reason to try to manipulate the reference rate in the first place. It is only because of the ISDAfix conspiracy that *any* manipulative acts took place. Thus, *all* Defendants are liable for *all* damages, even if “only” a subset of the banks participated in the conspiracy in a given day

by means of “banging the close” or other manipulative trading practices. All Defendants participated in the conspiracy on every day by means of their rubberstamping of the reference rate, rather than providing honest submissions to ICAP about their own individual prices.

247. The Class was deprived of the benefit of a fully competitive market for swaps and other instruments. For instance, Class members paid prices for swaps that were different than what they would have been, to their detriment, if not for the agreement among these horizontal competitors to rig ISDAfix.

248. Class members that entered into an interest rate derivative transaction whose cash flows were expressly tied to USD ISDAfix were also harmed by the collusion among these horizontal competitors. The cash flows for their contracts were directly tied to ISDAfix, which was supposed to represent the going rate in a fully competitive market. By manipulating the market for swaps, and then rubberstamping the resulting (artificial) reference rate, Defendants’ conspiracy dictated the contractual cash flow to these Class members’ detriment.

249. Defendants’ conspiracy is a *per se* violation of §1 of the Sherman Act. It centrally involved joint coordination among horizontal competitors to move prices for interest rate swaps. Alternatively, the conspiracy resulted in substantial anticompetitive effects in the over-the-counter derivatives market. There is no legitimate business justification for, or pro-competitive benefits caused by, Defendants’ conspiracy and overt acts taken in furtherance thereof. Any ostensible procompetitive benefits are pretextual or could have been achieved by less restrictive means.

250. As a direct, material, and proximate result of Defendants’ violation of §1 of the Sherman Act, Plaintiffs and members of the Class have suffered injury to their business and property, within the meaning of §4 of the Clayton Act, throughout the Class Period.

251. Plaintiffs and members of the Class are entitled to treble damages for Defendants' violations of §1 of the Sherman Act under §4 of the Clayton Act.

252. Plaintiffs and members of the Class are also entitled to an injunction against Defendants, preventing and restraining the violations alleged above, under §16 of the Clayton Act.

SECOND CLAIM FOR RELIEF

(Breach of Contract – Against All Defendants Except ICAP)

253. Plaintiffs hereby incorporate each preceding and succeeding paragraph as though fully set forth herein.

254. This claim is only based on those transactions where a Class Member received or made a payment during the Class Period on an interest rate derivative transaction (including without limitation cash-settled swaptions or swaps) entered into with a Defendant, whose cash flows were expressly tied to USD ISDAfix.

255. This claim is only for those transactions where a Defendant Bank (or its affiliates) was a counterparty, and the claim on such transactions is only against that Defendant Bank.

256. The contracts of the Plaintiffs and the Class members were governed by ISDA Master Agreements.

257. ISDA Master Agreements are standardized contracts and the breached provisions are found in every ISDA Master Agreement. The specific provisions breached by Defendants' conduct are Section 2 of the 1992 and 2002 ISDA Master Agreements, together with Sections 13 and 17 of the 2000 ISDA Definitions, and Sections 14 and 18 of the 2006 ISDA Definitions in respect of swaptions, and together with Section 2 of the 2000 and 2006 ISDA Definitions in respect of swaps.

258. With respect to cash-settled swaptions and other contracts governed by ISDA Master Agreements that settled by reference, or otherwise had cash flows tied to ISDAfix rates, Defendant Banks had a contractual duty to act in good faith when determining the payments, if any, due to Plaintiffs and members of the Class. Defendant Banks, however, manipulated the benchmark which was used to make that determination. Despite knowing that the core benchmark for calculating the payments owed to Plaintiffs and Class members was set to artificial levels, the banks used the numbers generated by that manipulated benchmark to pay out less to than Defendants truly owed, breaching their duty of good faith.

259. Defendant Banks and Plaintiffs and members of the Class entered into ISDA Master Agreements, which were accompanied by Schedules, Credit Support Annexes, and confirmations that used terms defined in the 2000 or 2006 ISDA Definitions.

260. Under the ISDA Master Agreement, accompanying documents, and the 2002 and 2006 ISDA Definitions, Defendant Banks, as Calculation Agents, had a duty to determine the Cash Settlement Amount due under their swaptions and other interest rate derivatives that settled by reference, or otherwise had cash flows tied to ISDAfix rates in good faith and in a commercially reasonable manner. Defendant Banks breached this duty when they determined the Cash Settlement Amount with reference to an ISDAfix rate that they knew was regularly manipulated. Defendant Banks also were contractually obligated by the ISDA Master Agreements to “comply in all material respects with all applicable laws . . . to which it may be subject if failure so to comply would materially impair its ability to perform its obligations under this Agreement.” Defendant Banks breached this obligation by violating numerous laws through their collusion to manipulate and actual manipulation of ISDAfix rates.

261. Defendant Banks breached their swaption and other interest rate derivative contracts that settled by reference, or otherwise had cash flows tied to ISDAfix rates with Plaintiffs and members of the Class through their collusion to manipulate ISDAfix rates, their actual manipulation of ISDAfix rates, their failure to disclose their knowledge that the ISDAfix rates were manipulated, and their collection of overpayments from (or making underpayments to) Plaintiffs and Class members based on the manipulated ISDAfix rates.

262. Because of the acts of Defendant Banks and their co-conspirators as alleged herein, Plaintiffs' swaptions and other interest rate derivatives that settled by reference, or otherwise had cash flows tied to ISDAfix rates were made less profitable than they would have been in the absence of manipulation. As a result of Defendant Banks' breaches of their contracts, Plaintiffs and Class members suffered economic losses and damages in an amount to be determined at trial, and are entitled to be placed in the same situation as if Defendant Banks had fully performed under their ISDA Master Agreements. Plaintiffs and members of the Class seek to recover all losses caused by ISDAfix manipulation, including loss of interest, lost profits, and all losses on the swaptions and other interest rate derivatives that settled by reference, or otherwise had cash flows tied to ISDAfix rates that they directly transacted with a Defendant Bank as their counterparty. Plaintiffs and Class members have incurred reasonable out-of-pocket expenses, including legal and expert fees, to enforce and protect their rights under their contracts with Defendant Banks.

THIRD CLAIM FOR RELIEF

(Breach of Implied Covenant of Good Faith and Fair Dealing – Against All Defendants Except ICAP)

263. Plaintiffs hereby incorporate each preceding and succeeding paragraph as though fully set forth herein.

264. This claim is only based on those transactions where a Class Member received or made a payment during the Class Period on an interest rate derivative transaction (including without limitation cash-settled swaptions or swaps) entered into with a Defendant, whose cash flows were expressly tied to USD ISDAfix.

265. This claim is only for those transactions where a Defendant Bank (or its affiliates) was a counterparty, and the claim on such transaction is only against that counterparty bank.

266. As stated above, Defendant Banks and members of the Class entered into ISDA Master Agreements, accompanying documents, and transactions using terms defined by the 2000 or 2006 ISDA Definitions. Implied in these agreements was a covenant that the counterparties would deal with each other in good faith and would not engage in any conduct to deprive the other of the benefits of their respective agreements. Also implied was a promise by the Defendant Banks that ISDAfix rates – by which the swaptions and other interest rate derivative transactions would be valued – would not be manipulated to the Defendant Banks' benefit and Class members' detriment.

267. Defendant Banks failed to perform their obligations in good faith under these agreements by knowingly, intentionally, and secretly manipulating ISDAfix rates to either reduce the payments they would have to make or to increase the payments they were entitled to receive at the expense of Plaintiffs and the Class, or by negotiating settlement amounts to terminate swaptions and other financial instruments based on manipulated ISDAfix rates. At the very least, Defendant Banks acted with reckless disregard for the interests of Plaintiffs and the Class.

268. As the banks knew, their manipulation of ISDAfix rates deprived Plaintiffs and the Class of the benefit of their bargain. Had the Defendant Banks not manipulated ISDAfix

rates, Plaintiffs' and Class members' swaptions and other interest rate derivative transactions would have been more profitable or losses on those transactions would have been lower. As a direct and proximate result of Defendant Banks' knowing, intentional, and bad faith violation of the ISDA Master Agreement's implied covenant of good faith and fair dealing, Plaintiffs and members of the Class have suffered damages in an amount to be determined at trial. Plaintiffs and members of the Class seek all losses caused by ISDAfix manipulation, including loss of interest, lost profits, and all losses on the swaptions and other financial instruments that they transacted with a Defendant Bank.

FOURTH CLAIM FOR RELIEF

(Unjust Enrichment – Against All Defendants Except ICAP)

269. Plaintiffs hereby incorporate each preceding and succeeding paragraph as though fully set forth herein.

270. Defendant Banks were unjustly enriched at the expense of and to the detriment of Plaintiffs and members of the Class. As described above, the Defendant Banks knowingly acted in an unfair, unconscionable, and oppressive manner towards Plaintiffs and members of the Class by manipulating ISDAfix, in conscious and/or reckless disregard for Class members' rights.

271. Defendant Banks were unjustly enriched at the expense of the Plaintiffs and members of the Class when they paid Defendant Banks more on the ISDAfix contracts than they otherwise would have (absent manipulation) and when the Defendant Banks paid them less than they otherwise would have (absent manipulation). As discussed above, the contracts at issue had their final cash flowed directly determined by ISDAfix, which was being manipulated by Defendants.

272. Defendant Banks were unjustly enriched at the expense of the Plaintiffs and members of the Class when they paid Defendant Banks more for swaps or other interest rate

derivatives than they otherwise would have (absent manipulation) or received less from Defendants when selling swaps or other interest rate derivatives than they otherwise would have (absent manipulation).

273. Plaintiffs and members of the Class have no adequate remedy at law for these misappropriated gains. The Court should issue a constructive trust compelling counterparty Defendants to disgorge to Plaintiffs and members of the Class all unlawful or inequitable proceeds counterparty Defendants received, and all funds counterparty Defendants unjustly retained that should have been paid to Plaintiffs and members of the Class. Plaintiffs and members of the Class are also entitled to rescission of the transactions or rescissory damages.

274. The counterparty banks worked in concert and entered into a civil conspiracy and corrupt agreement to manipulate ISDAfix. Whereas a particular Defendant may not have profited off one transaction when viewed in isolation, the conspiracy allowed all Defendants to profit. Accordingly, any Defendant not in privity on a given transaction are included in this Claim as co-conspirator.

275. As described above, all Defendants committed numerous overt acts in furtherance of that conspiracy and agreement, as detailed above, including coordinating anomalous trading activity during the fixing window, rubberstamping the resulting artificial reference rate, and by intentionally failing to disclose the material information that ISDAfix was being manipulated. Defendants acted with malice, and intended to injure investors and the Plaintiffs and members of the Class through the actions described herein.

276. Each Defendant was at all relevant times fully aware of the conspiracy and substantially furthered it as set forth above.

277. Plaintiffs and members of the Class seek restoration of the monies of which they were unfairly and improperly deprived, as described herein.

FIFTH CLAIM FOR RELIEF

(Tortious Interference with Contract – Against All Defendants)

278. Contract Plaintiffs hereby incorporate each preceding and succeeding paragraph as though fully set forth herein.

279. This count arises out of Defendants' intentional interference with the contracts of Plaintiffs and the Class. Plaintiffs and Class Members had valid, enforceable contracts whose cash flows were determined with reference to ISDAfix.

280. This count is only based on those transactions where a Class Member received or made a payment during the Class Period on an interest rate derivative transaction (including without limitation cash-settled swaptions or swaps) entered into with a Defendant, whose cash flows were expressly tied to USD ISDAfix.

281. Defendants, who dominated the market, were fully aware that it was common for swaptions to reference ISDAfix to determine the final cash flows at expiry. They were thus also fully aware that manipulating ISDAfix would directly impact the cash flows associated with those contracts. Indeed, manipulating the cash flows of cash-settled swaptions and similar derivatives tied to ISDAfix was a main purpose of Defendants' ISDAfix-rigging conspiracy.

282. Defendants' unlawful conduct described above, including Defendant Banks' false ISDAfix submissions, was therefore an intentional interference with the ISDAfix-referencing contracts of Plaintiffs and members of the Class.

283. Defendants acted out of malice and with dishonest, unfair, and improper means, including fraud or misrepresentation.

284. As a direct and proximate result of Defendants' misconduct, Plaintiffs and Class members suffered damages when they paid Defendant Banks more on the ISDAfix contracts than they otherwise would have (absent manipulation) and when the Defendant Banks paid Class members less than they otherwise would have (absent manipulation).

285. In addition, because Defendants' fraud was willful and wanton, and because, by their acts, Defendants knowingly affected the general public, including but not limited to all persons with interests in ISDAfix, Plaintiffs and members of the Class are entitled to recover punitive damages.

PRAYER FOR RELIEF

Plaintiffs demand relief as follows:

A. That the Court certify this lawsuit as a class action under Rules 23(a), (b)(2), and (b)(3) of the Federal Rules of Civil Procedure; that Plaintiffs be designated as class representatives of the Class, and that Plaintiffs' counsel be appointed as counsel for the Class;

B. That the unlawful conduct alleged herein be adjudged and decreed to violate §1 of the Sherman Antitrust Act, 15 U.S.C. §1;

C. That Defendants be permanently enjoined and restrained from continuing and maintaining the conspiracy alleged in the Complaint under Section 16 of the Clayton Antitrust Act, 15 U.S.C. §26;

D. That the Court award Plaintiffs and the Class damages against Defendants for their violations of federal antitrust laws, in an amount to be trebled under Section 4 of the Clayton Antitrust Act, 15 U.S.C. §15, plus interest;

E. That the Court award Plaintiffs and the Class damages against the counterparty Defendants for their breaches of contract, as well as their breaches of their implied duty of good faith and fair dealing;

F. That the Court award Plaintiffs their costs of suit, including reasonable attorneys' fees and expenses, including expert fees, as provided by law; and

G. That the Court direct such further relief it may deem just and proper.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Plaintiffs demand a jury trial as to all issues triable by a jury.

DATED: February 12, 2015

/s/ Daniel L. Brockett

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